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MASTER

SPURAS I

on-line search guide

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A.1. HISTORY -- SPIRES I/SPIRES II/SPIRES III

SPIRES I, SPIRES II, and SPIRES III are three generations of the on-line Stanford Public Information RETrieval System, developed at the Stanford University Computation Facility under the leadership of Prof. E. Parker of the Institute for Communications Research and John Schroeder, Manager of Database Systems, SCIP. The National Science Foundation sponsored the development of SPIRES I and II during the years 1967-72, with grants totalling close to \$1,000,000.

SPIRES I was designed as a prototype system. When work was well advanced on the SPIRES II system, SPIRES I was moved to the SLAC Computing facility where since June 1972 it has been routinely available to SLAC users. In October 1972 SPIRES II began regular on-line operation on the campus 360/67, where further development (SPIRES III) has been supported by Stanford University. The SPIRES III system is expected to become self-supporting from user revenue.

No further development of SPIRES I is planned, but it will continue in use for high-energy-physics information retrieval at SLAC until early 1976 when the highly sophisticated SPIRES III will be available for installation on the SLAC Triplex system (currently two IBM S/370/168's linked with an IBM S/360/91).

SLAC participation in the SPIRES project began when it was still the Stanford Physics Information RETrieval System, in 1967. Forty SLAC physicists were interviewed to discover features which scientists wanted in an on-line information retrieval system. Many of their suggestions were incorporated into the design of SPIRES I and more into SPIRES II. SLAC physicists and librarians served as a sample users group for SPIRES I.

The SLAC Library developed a large high-energy-physics preprint data file as the first SPIRES I database. Originally intended to remain static at about 5000 document entries, the preprint database now (Mar 1975) contains more than 30,000 entries, with 75-100 new entries added each week. The SLAC Library weekly publication "PREPRINTS IN PARTICLES AND FIELDS" (PPF), began production in 1969 as a by-product of the SPIRES I effort and currently is self-supporting with over 500 subscribers worldwide.

The SLAC Library also supplies regular preprint source tapes in SPIRES I input format to other HEP facilities.

A preprint database alone, however, would be insufficient, since 30-40% of all HEP documents never appear in preprint form. In Nov 1972, the DESY HIGH-ENERGY PHYSICS INDEX, developed under Dr. K. Meilertin at DESY (Hamburg), was introduced as a SPIRES I data base. DESY files contain more than 70,000 high-energy physics entries for the years 1968-current. Each entry has been assigned a set of carefully selected topic phrases. Since indexing is done by professionals directly from the document, topic searching in DESY is not bound by the author's choice of title. The sets of topic words also form a mini-abstract for each entry.

In Dec 1972, the SLAC Library in cooperation with the LBL Particle Data Group added a small HEP proposal database to SPIRES I (a few hundred active experimental HEP proposals from the major labs). In addition, the Particle Data Group undertook assignment of special topics (i.e., reaction, etc.) to preprints containing new experimental data, significantly improving the usefulness of the preprint database.

SLAC physicists have free access to SPIRES I data files, altogether totalling more than 100,000 entries. Users can invoke the system during regular daily SPIRES hours or may request a SLAC librarian to conduct a search.

Some of the older files are not always on-line (DESY68/69 for instance) but may be searched "ON DEMAND" (see Section B.3.2) or on certain days of the week when all files are on-line.

A.2. WHAT YOU CAN DO USING SPIRES I (and some things you can't)

From any SLAC computer terminal you can search for bibliographic information in high-energy physics files containing more than 100,000 entries dating from 1968 thru current.

SPIRES I DATABASES

SPIRES I	DESY HIGH ENERGY PHYSICS INDEX (70,000+ 1968-present) SEARCHABLE BY: AUTHOR, TITLE WORDS, TOPICS SCOPE? VIRTUALLY THE WHOLE HIGH ENERGY PHYSICS LITERATURE INCLUDING PREPRINTS, BOOKS, JOURNAL ARTICLES, CONFERENCE PAPERS, LECTURES.
	PREPRINT (30,000+ entries, 1968-present) SEARCHABLE BY: AUTHOR, TITLE WORDS, CITATIONS, DATE, REPORT NOS., (TOPICS LIMITED) SCOPE? ALL HIGH ENERGY PHYSICS PREPRINTS RECEIVED BY SLAC LIBRARY SINCE MARCH 1968.
	PROPOSAL (100+ entries, high-energy physics experimental proposals) SEARCHABLE BY: AUTHOR, TITLE, TOPICS, REPORT #, DATE SCOPE? CURRENTLY ACTIVE EXPERIMENTAL PROPOSALS FOR MAJOR HEP LABS. TOPICS ASSIGNED BY LBL PARTICLE DATA GROUP.

You may search by subject (topic), by words from titles, authors' names, report nos., dates, citations, and by combinations thereof. The search is "interactive" and gives immediate results at the terminal so that you may refine your search as you go along using AND, OR, NOT logic. Response times are comparable to WYLBUR response times. You can list the results of searches at your terminal or can "SAVE" them in a regular WYLBUR file for later listing offline.

For example, using the topic search in the DESY files, you can locate all papers on 'PSI(3700)' and narrow to those containing only new EXPERIMENTAL RESULTS or if you prefer, to REVIEW papers, etc. In the PREPRINT file, you can locate all recent PREPRINTS which have cited your 1967 article in the Phys.Rev. (This last type of search is known as citation searching.) Or you could search for all papers with PSI or J in the title, not authored by Richter, and dated after Jan 1975.

SPIRES I data files are limited to high-energy physics and related instrumentation subjects. On-line searches in other fields of physics, engineering, or chemistry can be done on other systems such as Lockheed's DIALOG or ERDA's RECON.

NON - SPIRES DATABASES

DIALOG	PHYSICS ABSTRACTS COMPUTER AND CONTROL ABSTRACTS ELECTRICAL AND ELECTRONIC ENGINEERING ABSTRACTS CHEMICAL ABSTRACTS ENGINEERING INDEX
RECON	NUCLEAR SCIENCE ABSTRACTS

If you need a literature search in a subject not covered by the HIGH ENERGY PHYSICS files of SPIRES I, contact L. Addis or B. Gex in the SLAC Library, x2411.

B. THE GUIDE

This guide to SPIRES I assumes that the user has a slight acquaintance with SLAC WYLBUR and has access to a WYLBUR account on the SLAC Triplex. Users can get WYLBUR information and manuals from the SLAC Computing Facility Consulting Office in the SLAC Computation Building.

B.1. SPIRES I LANGUAGE VS. WYLBUR LANGUAGE

The SPIRES I language though similar to WYLBUR language, is not its twin. For instance, you cannot use "L" for list (the most common confusion). Nor can you reduce commands to three letter abbreviations. RESTART is RESTART not RES. To list your results offline you cannot simply LIST OFFLINE but must go through a two step procedure. TYPE SAVE creates a private WYLBUR file on SCROO1 which may later be used and listed offline. "SAVE FILES" are accessible only after the SPIRES I system has released them to WYLBUR. For details, see SECTION B.6, "OUTPUT".

Like WYLBUR, SPIRES I needs a carriage return after you've typed something to trigger the next prompt. Backspacing corrects, while pushing ATTN button wipes out current line and gives you a reprompt for starting over. ATTN also halts listing at the terminal. As in WYLBUR, upper and lower case are ignored in commands.

Double (") and single (') quotes are not interchangeable in SPIRES as they are in WYLBUR. In SPIRES, double quotes (") must be used.

There are a couple of permanent but easily circumvented bugs in SPIRES I (keep in mind that it was an early prototype!) which are described in Section B.8.

B.2. PREPARING TO SEARCH

Before beginning a SPIRES I search it is useful to prepare a search strategy. The DESY files, for instance, offer a choice of nearly 8000 topic phrases. Thus to get the most out of a topic word search in the DESY files, it is helpful to consult the DESY TOPIC WORD FREQUENCY LISTS for the years you plan to search. This will give you the exact TOPIC WORD PHRASING and some idea of the number of documents you may locate. The recent DESY topic word lists also contain extensive annotations and cross references which enable the user to discover, for instance, that CHARPAK CHAMBERS are indexed under PROPORTIONAL WIRE CHAMBER (DESY70/71,72/73) and PROPORTIONAL CHAMBER (DESY74/75).

TITLE WORD FREQUENCY LISTS are also available for both the PREPRINT and DESY files. Many variations of words are used in titles and it is hard to remember all possibilities without consulting the lists.

You can make your own copies of some of these and other helpful lists by utilizing the following exec file:

```
exe fro WYL.LI.PUB.LIB#SPILISTS on CAT
```

A complete set of lists is available for reference in the SLAC Library (near the preprint display).

You may also need to gather journal, volume, and page citations for a citation search. (See Section B.5.2, Citation Searching)

If you can't consult any lists, it is possible to work into a TOPIC search in a DESY file by finding a paper you already know about and displaying the topics assigned to it. You can also prepare for a citation search by locating an old paper in the PREPRINT file, displaying the publication note and using the journal, volume, page reference for your citation search. Examples of these strategies in action are shown in the SAMPLE SEARCHES in Section C.

B.3. SIGNING ON

There are two ways to make use of SPIRES I at SLAC. The easiest is to check the posted SPIRES I hours and sign on through WYLBUR during the regular SPIRES session. You can also bring up a mini-SPIRES yourself at other hours of the day or night by using the ON DEMAND procedures described in Section B.3.2.

B.3.1 DAILY, M-F (HOURS POSTED)

SPIRES I is regularly available Monday thru Friday at posted hours.

As of Apr 1975, the following files are mounted for the regular SPIRES session:

```
PREPRINT (30,000 entries, complete thru current)
DESY72/73 (20,000 entries, complete)
DESY74/75 (complete thru current)
PROPOSAL (sometimes not mounted. check sign-on message)
```

Additional files are mounted at least once a week:

```
DESY68/69 (20,000 entries, complete)
DESY70/71 (20,000 entries, complete)
```

A sign-on message states which files are mounted during the current session and gives information on the update status of PREPRINT and DESY74/75. If the file you need is not currently mounted, see the ON DEMAND procedures in Section B.3.2.

B.3.2 ON DEMAND

The user who is familiar with submitting jobs through WYLBUR can "bring up" a mini-SPIRES I search at any time by using the command:

```
exe fro WYL.LI.PUB.LIB(SPIRES) on wyl002 cle
```

This exec procedure gives a choice of bringing up (a) the PREPRINT search or (b) various partial DESY searches.

An "O" job is submitted under the user's account on the SLAC Triplex. It will bring up a version of SPIRES I which will not be called SPIRES but will be given the user's jobname. When the job reaches GO step execution, you will be able to sign on your version of SPIRES. Your job will continue to execute during the entire time you are using SPIRES and must be cancelled to end the session. In the following examples, XXXPPT is the jobname for the preprint search, XXXDSY74 is the job name for the DESY74/75 search.

EXAMPLES:

COMMAND? sho sys		COMMAND? sho sys
WYLBUR		WYLBUR
XXXPPT		XXXDSY74
COMMAND? xxxppt		COMMAND? rxxdsy74
Welcome to SPIRES....		Welcome to SPIRES...
SEARCH? preprint		SEARCH? desy74/75
FIND? ...		FIND?

Several users may sign-on SPIRES whenever it is up regardless of who originated the job. The originator, however, is responsible for cancelling the job when searching is complete. Thus, if you are signing on someone else's version, it is wise to send a message to the original user (job initials), warning that you are using the system too.

To cancel your version of spires:

```
OPTION? exit
SYSTEM? wylbur
COMMAND? CANCEL jobname
```

B.4. INTRODUCTION TO THE SEARCH (search terms and available files)

SPIRES I is the name of the "SYSTEM" which handles the on-line searching for bibliographic "ENTRIES" in one or more "FILES" ("DATABASES"). All information about one document is one "ENTRY" (analogous to the basic catalog card). ENTRIES are sliced up into units called "DATA ELEMENTS" (i.e., author, title, date, date received, pages, etc.)

For the SPIRES I preprint file a total of 29 possible document data elements are identified. Not all, of course, occur for each document entry.

Of the various data elements entered for each document, all are available for listing. Ordinarily, however, just a few such as author, affiliation, title, report No., date, etc. are presented in a "default format." For details on DATA ELEMENTS and output formats, see table in Section B.6.3.

Selected data elements, i.e., author, title, report no., topic, citation are "indexed". Only these indexed data elements are available for searching. For instance, authors are indexed in all files; affiliations are not. Thus it is possible to locate all papers by author J.K. Smith, but not just papers by the J.K. Smith at Oxford University.

The number of indexes varies from file to file. Authors, for example, are indexed in all files, whereas citations are indexed only in the preprint file.

The following table shows current SPIRES I filenames, indexes, and search terms. Both long and short forms of the search terms are shown with the short form in parentheses, i.e., long form = author; short form = a.

TABLE OF FILE NAMES, SEARCH CODES, AND INDEXES

File Names	Availability & Sys Name		Search Codes and Index Availability						
	DAILY	CN DEMAND	Author (a)	Citation (c)	Date (d)	Report No. (id)	Title (ti)	Topic (tp)	
PREPRINT	SPIRES	xxxPPT	x	x	x	x	x	*x	
PROPOSAL	SPIRES	xxxDESY	x		x	x	x	x	
DESY68/69	SPIRES (Mon)	xxxDESY	x		**x		x	x	
DESY70/71	SPIRES (Mon)	xxxDESY	x		**x		x	x	
DESY72/73	SPIRES	xxxDSY72	x		**x		x	x	
DESY74/75	SPIRES	xxxDSY74	x		**x		x	x	

*limited to SLAC technical notes and recent experimental preprints.
 **year only-in the DESY files the dates on references are to the year only, i.e. 1973, 1974, whereas in the other files the dates are given to the month.

Codes are used to identify the index in which a term is to be searched. To search for an author named Bethe and an author named Salpeter the search code AUTHOR (A) must be repeated for each term.

!!! RIGHT: FIND? author bethe or author salpeter

!!! RIGHT: FIND? a Bethe or a salpeter

WRONG: FIND? author bethe or salpeter

To search for a title BETHE SALPETER, the title code must be included in the search phrase.

!!! RIGHT: FIND? title bethe salpeter

!!! RIGHT: FIND? ti bethe salpeter

WRONG: FIND? bethe salpeter

Detailed descriptions of all the searches are given in SECTION 3.5.

B.4.1 SELECTING A FILE (and SWITCHING FILES)

A sign-on message announces which files are available in the current version of SPIRES I. SPIRES will then ask which file you wish to search, i.e. SEARCH? Type the correct name of a file (the first six characters are sufficient). The file remains set until another file is specified.

Note that though several files may be available during a particular SPIRES session, each must be searched separately. To switch files, type the word SEARCH followed by the name of the file to be searched,

EXAMPLE:

```
Welcome to SPIRES, for help type SHOW HELP
Files: PREPRINT, 30,490 entries (4-1-75); DESY72/73, 20,086 complete, DESY74/75, 13,453 entries (5
SEARCH? DESY74/75
FIND? ...
OPTION? search desy72/73
FIND? ...
FIND? search preprint
```

The file to be searched remains set until another file is specified. In the above example, the switch was made from DESY74/75 to DESY72/73 to PREPRINT.

It has been necessary to limit the size of each DESY file to 20,000 entries. Thus, to make a complete search of DESY 1970 thru current, you must repeat your search three times (in DESY70/71, DESY72/73, DESY74/75)

WARNING: If you are conducting the same search in all the files, i.e. FIND? topic x you must do another (possibly dummy) search before or after switching to next file. There is a permanent "bug" which sometimes keeps the search from clearing itself properly on a file switch unless the search terms are changed also. There is an example in Section B.3 "OBSTACLES", wherein the THE BUG and other difficulties are circumvented.

WARNING: A typical user error is to mistype the DESY filenames with a space between DESY and the year.

```
WRONG: FIND? search DESY 74/75
!!!! RIGHT: FIND? search DESY74/75 !!!!
```

B.4.2 SHOW HELP

If, after signing on SPIRES I, you type SHOW HELP, SPIRES will type fifty lines of advice, search terms, options and a sample search for you to try out.

You can type "SHOW HELP" at any time without disturbing your current search results.

You can interrupt the HELP FILE or anything else you tire of, by hitting the ATTN button.

EXAMPLE:

```
? spires
**Welcome to SPIRES. For help, type SHOW HELP**
Files:...
SEARCH? show help
```

HELP FILE

1. Respond PREPRINT or DESY74/75, or DESY72/73, or PROPOSAL to "SEARCH?"...

```
SEARCH? preprint
FIND? author Gell-mann or author Feynman
```

In this example, the user pushes attention (shown as three dots...) to cut short the signon message, then looks at the first line of the "HELP FILE" to find out what the valid filenames are, interrupts again (more dots) and specifies a file to be searched.

B.4.3 BEGINNING A NEW SEARCH (Restart) (Find?)

Once you specify the name of the file you wish to search, SPIRES will prompt "FIND?", the signal that a search may begin. Each new search begins with "FIND?".

```
SEARCH? preprint
1.  FIND? author Gell-mann or author Feynman
      10 DOCUMENTS ACCUMULATED
   ? date after jan 1972
      2 DOCUMENTS ACCUMULATED
   ? type save
OPTION? restart
2.  FIND? a Bjorken and not a Gell-mann and not a Feynman
      32 DOCUMENTS ACCUMULATED
   ? type length 70
OPTION? search desv74/75
3.  FIND? topic polarization,target
      93 DOCUMENTS ACCUMULATED
   ? topic review
      0 DOCUMENTS ACCUMULATED
BACKUP? no
4.  FIND? exit
SYSTEM? wylbur
```

The above example illustrates the four (4) ways a new search may begin:

1. SIGN ON (FIND? is the first prompt after file selection)
2. RESTART (RESTART clears search like a WYLBUR CLEAR TEXT)
3. SEARCH <new filename> (switching files clears the search)
4. BACKUP? no (search cleared after results narrowed to 0 with no backup)

Upper and lower case are treated as upper case in all SPIRES searches.

B.4.4 CONTINUING A SEARCH (search)

If FIND? is not the prompt, the current search is still continuing. After the initial FIND? the following prompts may appear:

```
?
OPTICN?
BACKUP?
NEXT ITEM?
ELEMENTS?
```

None of these wipes out the set of references previously accumulated. They merely allow one to narrow, broaden or list results.

Of these prompts, only the ? indicates that SPIRES is actually in search mode and ready to accept another search statement to narrow or broaden a search.

EXAMPLE:

```
FIND? author smith and date after Jun 1974
   ? or a jones and date after June 1974
   ? type
OPTION? search
   ? or a J. Doe and date after Jun 1974
   ? choose
ELEMENTS? t, a
ELEMENTS? <CR>
OPTION? type own
```

To return to search mode (as opposed to starting a new search with RESTART) type "SEARCH". ("Choose" is explained in Section B.6.3)

```
OPTION? search
?
```

When a mistake in typing a command produces a vaguely worded admonition from the system, i.e. SYNTAX ERROR, etc. , just try again.

B.4.5 BACKUP

When search results are narrowed to 0 documents, SPIRES I will query:

BACKUP?

If the answer is NO, SPIRES will start off afresh with a FIND? If YES the search results will be reset to the previously accumulated set of documents. SPIRES I is able to back up only one step in a search. To backup more than one step, simply RESTART and repeat the search.

The one-step backup may be used anytime during a search in response to a single question mark (?). BACKUP is not a legal response to "OPTION".

To go from OPTION? to BACKUP, reenter search mode and then type BACKUP:

EXAMPLE:

```
!!! RIGHT:  OPTION? search  !!!  
            ? backup  
            SEARCH RESET TO LAST 100 DOCUMENTS  
            ?
```

DO NOT TYPE BACKUP IN RESPONSE TO OPTION?

WRONG: OPTION? backup

WARNING! After a successful backup, the first attempt to continue searching may produce a "SYNTAX ERROR" message. Ignore it and try again.

B.4.6 SEARCH LOGIC

The simplest search statement specifies one data element, such as an author, and finds all the documents in a particular file which have that specific data element.

EXAMPLES:

```
FIND? a Drell, S.  
FIND? ti Regge  
FIND? c PHRVA,D1,1235  
FIND? topic experimental results,bubble chamber
```

Each of the above statements looks for only one author, title word, citation or topic phrase.

More complex searches may be phrased using

```
AND  
OR  
AND NOT
```

For instance:

1. FIND? a Drell, S. and ti Regge
finds all documents with both author Drell and the word Regge in the title.
2. FIND? a Drell, S. and not ti Regge
or
FIND? a Drell, S. not ti Regge
finds all documents by author Drell but NOT having the titleword Regge. In the second version the AND is implicit before the NOT.
3. FIND? a Drell, S. or ti Regge
finds all documents with EITHER author Drell or titleword Regge (or both)

Each of these three searches could also have been broken into two parts:

1. FIND? a Drell, S.
XX DOCUMENTS ACCUMULATED
? ti Regge
X DOCUMENTS ACCUMULATED

In this example, an implicit "AND" was present before ti Regge and the search was narrowed. The search could have been phrased:

- 1a. FIND? a Drell, S.
XX DOCUMENTS ACCUMULATED
? AND ti Regge
X DOCUMENTS ACCUMULATED

If no logical connector (such as OR) is present after a "?", AND is understood.

2. FIND? a Drell, S.
XX DOCUMENTS ACCUMULATED
? not ti Regge
X DOCUMENTS ACCUMULATED

Again the implicit "AND" is present after the question mark and the search is narrowed to papers by Drell without the word REGGE in the titles.

3. FIND? a Drell, S.
XX DOCUMENTS ACCUMULATED
? or ti Regge
XXX DOCUMENTS ACCUMULATED

In this case OR is specified and the search is broadened. The entire file is searched for all documents having Regge in the title. The results are compared to the set already collected having author Drell. Duplicates are thrown out and XXX documents are accumulated having author Drell or title Regge or both.

B.4.6.1 THE IMPLICIT "AND" IN THE TITLEWORD SEARCH

Another implicit "AND" is present in the titleword search phrase:

FIND? ti Regge Pole

which actually means

FIND? ti Regge AND ti Pole

and finds all documents having the words both REGGE and POLE somewhere in the title.

'the REGGE POLE'

'the REGGE MODEL AND THE NORTH POLE'

'the POLE MODELS ACCORDING TO REGGE THEORY'

WARNING! There is no implicit AND in the TOPIC search.
FIND? TOPIC REGGE POLE finds TOPIC REGGE POLE
but not PCLE, REGGE.

B.4.6.2 HOW THE SEARCH FINDS MATCHES AND ELIMINATES DUPLICATES (HOW TO BEAT THE MESSAGE "TOO MANY DOCUMENTS ACCUMULATED")

SPIRES I finds matches and eliminates duplicates from search results by comparing "stacks" of document entries. In large files, this stratagem sometimes leads to trouble.

If a search is phrased

FIND? ti narrow resonance or ti psi

SPIRES collects 3 stacks: entries with NARROW in the title, entries with RESONANCE in the title, and entries with PSI in the title. It then compares the "NARROW" stack with the "RESONANCE" stack and picks out matches, i.e., documents appearing in both stacks and thus having both NARROW and RESONANCE in the titles. One set of matches is kept. Then the "PSI" stack is compared with the NARROW RESONANCE stack and duplicates eliminated. The final result is one stack containing one set of entries with either title NARROW RESONANCE and/or title PSI.

The date, however, is coded into each index point, i.e., title PSI:04/75. and when a search is phrased:

FIND? ti psi and date after oct 1974

Only one stack of documents is collected (title PSI) and checked for date codes after October 1974. Documents that don't have the right date codes are thrown out of the stack.

WARNING! There is a 1000 document limit in buffer size (working space).
If a search yields two stacks of documents for comparison which together total more than 1000 documents, the search will fail, even if the expected result is far less than 1000. You will get the message:
TOO MANY DOCUMENTS ACCUMULATED...
SEARCH RESULTS RESET.
To evade such a problem, do such a search one step at a time. Instead of FIND? TI INELASTIC SCATTERING use FIND? TI INELASTIC
Then narrow it by
? AND TI SCATTERING
More examples are given in SECTION B.6 OBSTACLES..

B.4.7. MORE ABOUT SEARCH LOGIC - GROUPING AND NESTING

Any combination of the three logical connectors AND, OR, and NOT can be used in single search statements. SPIRES I processes the connectors in the following order:

NOT, AND, OR

In the following examples, parentheses indicate the way SPIRES I groups search elements.

EXAMPLE:

FIND? author Drell and author gilman or author harari
is grouped as:

FIND? (author Drell and author gilman) or author harari

EXAMPLE:

FIND? a Drell or a bjorken and a harari
is grouped as:

FIND? a Drell or (a bjorken and a harari)

EXAMPLE:

FIND? a Drell or a gilman not a harari
is grouped as:

FIND? a Drell or (a gilman not a harari)

In the above example there is an implied AND that precedes the NOT connector. This illustrates the use of an implicit AND imbedded within a compound request.

You may add parentheses to override the order of processing. For example, where the request is:

FIND? a Drell or a bjorken and a harari

which is naturally grouped by SPIRES I as:

FIND? a Drell or (a bjorken and a harari)

You may change this grouping by entering parentheses:

FIND? (a Drell or a bjorken) and a harari

which locates papers with Drell and harari or bjorken and harari.

FIND? (ti photon# or ti gamma#) and date after July 70.

locates papers with ti photon# and dated after July 1970 and papers with ti gamma# and dated after July 1970.

The above are examples of simple grouping. More complex grouping can be specified by nesting the parenthetical groups. In the examples to follow, the letters A, B, C, D, E, and F are used to represent a simple search request. An example of two level grouping is:

FIND? ((A or B) and (C or D)) and E

If there are more than five levels of nesting parenthetical groups, SPIRES I balks, as follows:

? D and (E or (F and (G or (H not I))))
TOO MANY PARENTHETICAL GROUPS USED IN THE CURRENT SEARCH
REQUEST SEARCH RESULTS RESET

or

ERROR IN PROCESSING. YOU ARE BEING SIGNED OFF SPIRES

Try again with something simpler.

B.4.8. RIGHT TRUNCATION FEATURE (#)

The special character # is used as a right truncation sign in the following searches:

1. Author
EXAMPLE: FIND? a Schwitt#
2. Title words (may be used multiply)
EXAMPLE: FIND? ti hydrog# target#
3. Topic phrases (single use only)
EXAMPLE: FIND? tp photon-photon#

The truncation symbol cannot be used in the ID (report number) search or in the citation search.

It does NOT matter whether a space is left before the truncation sign. The truncation sign must, however, be preceded by at least three characters.

1. FIND? a Gold#
FIND? a Gold #
both locate Gold, Golde, Goldhaber, etc.
2. FIND? ti string # BAG #
or
FIND? ti bag# and ti string#
locates documents entitled of strings, shells, aand bags
field theories of bags and strings
bag models and strings

3. FIND? topic nonleptonic decay #
locates documents (in the DESY FILE) which have been
assigned topic phrases beginning NONLEPTONIC DECAY. (i.e.,
NONLEPTONIC DECAY, HYPERON, etc.) It does not locate documents
having topic DECAY, NONLEPTONIC.

WARNING! WRONG: FIND? topic nonleptonic decay# hyperon#
and
WRONG: FIND? topic nonlept# decay

are ILLEGAL search phrases since the topic word search allows
only one truncation sign at the end of a single
topic word phrase. The search will ignore everything after
the first # sign.

WARNING! WRONG: FIND? ti pi #

is an ILLEGAL search phrase since the truncation sign must
be preceded by at least three characters.

B.4.9 QUOTES, RESERVED WORDS, RESERVED CHARACTERS

All search terms and symbols are "reserved": A, author, ti, title, and, or, not, d, date, topic, (), c, citation, id. To search for titles or topics or report nos. containing reserved characters, quotes must be used to to enclose reserved terms for searching. Examples are:

```
FIND? TOPIC "BRO(146C)"
FIND? ID "C 72 04 01"
FIND? TP "counters AND detectors"
FIND? ID "CEFN D PHYS"
FIND? TI "D"
FIND? ti "TOPIC"
FIND? TI "AUTHOR"
```

WARNING! SINGLE QUOTES (') and double quotes (") are not interchangeable
in SPIRES as in WYLSUR. Double quotes (") must be used to enclose reserved
terms for searching.

B.5. THE SEARCHES

B.5.1. AUTHOR SEARCH (A)

All authors of documents in the PREPRINT and DESY files are available for searching. Therefore, if you only remember the last of twenty authors of a paper, you may still locate that paper through a SPIRES I search.

An author search for R. Feynman may be phrased in any of the following ways:

```
FIND? a Feynman, R.
      a R. Feynman
      a feynman
      a richard feynman
      a richard p. feynman
      a feynm#, r.
```

This search will locate all entries having author R. Feynman. The SPIRES I author search is inclusive rather than exclusive since authors' names so frequently vary in form. Thus if you specify Richard P. Feynman, you'll find all of his papers on which his name appears as just R. Feynman. You'll also find the other R. Feynman if there happens to be one. You won't, however, get papers by R.E. Feynman.

Compound surnames such as van der Lans, Goldschmidt-Clermont, and Nguyen Ngoc may be located by searching either by segment or by the whole name.

```
FIND? a van der lans, J.
      a der lans
      a lans, J.
      a J. van der lans
```

```
FIND? a Y. Goldschmidt-Clermont
      a Goldschmidt#
      a Clermont, Y.
```

```
FIND? a nguyen ngoc
      a ngoc
      a nguyen#
```

W A R N I N G : FIND? a goldschmidt or a nguyen
finds only goldschmidt or nguyen and not
Goldschmidt-Clermont or Nguyen Ngoc.

Collaboration names are not retrievable in the preprint file but may easily be retrieved in the DESY files by doing a TITLE WORD search (The collaboration name is included as part of the title in the DESY HEP INDEX.)

```
FIND? search desy72/73
FIND? ti Aachen-Berlin-Bonn# collaboration
```

This will retrieve the various versions of the aachen-berlin-bonn collaboration. To look at how the various collaboration names appear in the DESY files, do a title search on collaboration, choose title and type own. (Examples in Section C)

B.5.2. CITATION SEARCH (C) (available only in PREPRINT data collection)

A citation search in SPIRES I PREPRINT FILE enables you to find recent papers which cite an earlier journal article. For instance, you can locate all the recent preprints which cite your Phys. Rev. Letters article from January 1966.

For a SPIRES I citation search, you will need a bona fide journal reference. (Sorry, no books, preprints, or proceedings.) The search statement is:

```

FIND?      c PRLTA,33,1406
           |   |   |   |
           |   |   |   |-----First page
search code|   |   |   |-----Volume
for citation|   |   |   |-----five letter abbreviation (CODEN) for journal
  
```

The example above will locate all preprints which have cited:

Augustin, J.-E., et al., "Discovery of a narrow resonance in e^+e^- annihilation. Phys.Rev.Lett.33:1406.1974.

Some commonly used CODEN abbreviations are given in Appendix D.2. A more complete list which includes rare coden is available for reference in the SLAC Library.

Section letters are attached to journal volume. Most Phys.Rev. and Nuclear Physics references are written with A,B,C, or D preceding the volume:

PHRVA,D1,303
NUPHA,D22,157

But Phys. Rev. 133-140A/D (1964-65), Physics Letters, Nuovo Cimento, etc. are written with the letter after the volume:

PHRVA,136A,870
NUCIA,66A,606
PHLTA,28B,429

The citation search frequently provides an excellent subject approach to the preprint collection. It is important, however, to choose two or more key articles which are not likely to be cited for a variety of subjects other than the one for which you are searching.

WARNINGS about the citation search:

Because entering citations is a large task, only references to standard journal articles are included, i.e., those for which journal name, volume, and page are available.

This limitation means that a citation search on a paper which spent its first six months as a preprint, misses all citations to its preprint version. It also means that conference papers cannot be used for citation searching (an attempt was made to include these but the references were too frequently ambiguous or incomplete.)

The printed Science Citation Index (SCI) handles all types of cited literature allowing a more extensive citation search by author. SCI, however, indexes only material cited in the published literature and runs many months behind. It is available at Physics Library and at the Lane Medical Library on the Stanford Campus.

Plans are underway (October 1975) for Lockheed to add the complete SCIENCE CITATION INDEX to the DIALOG on-line search service. Check with the SLAC Library for current status of this service.

B.5.3. DATE SEARCH (D)

A date is associated with every document as either the date of document (D), date of receipt (DR), or if the document is completely undated, the date of entry into the file.

DATE determines the order in which entries are displayed in output. The most recent documents are listed first.

A date search must always be combined with another type of search (title, topic, author, etc.) and may be phrased:

```
FIND? ti poincare and d jan 1973
      d from 1/73 thru 3/73
      d from 1 Jan 73 through 15 feb 1973
      d before february 1969
      d after 2-69
      d since feb 15, 1973
```

Dates in SPIRES I are accurate only to a half month. A search for

```
FIND? ti adler sum rule and date jan 12, 1973
```

will locate documents dated January 1-15, 1973.

```
FIND? ti lepton induced and d january 20, 1973
```

will locate document dated January 16-31, 1973.

THROUGH and THRU may be used interchangeably as may AFTER and SINCE. Month may be abbreviated to the initial three letters or more than three, such as:

Oct Octo Octob

Date must contain a year component; for instance

July THRU Oct 1968

is incorrect. SPIRES I does not recognize this as

July 1968 THRU Oct 1968

but, in 1975, as July 1975 thru Oct 1968 (or in other words, nonsense). If a year component is omitted, the current year is assumed.

Date components (month, day, year) must be separated by at least one blank character or one of the allowed spacing characters (- / , '). Additional blanks may be interspersed between components and spacing characters wherever desired. For example, the following are considered identical:

June 17, 1964
June 17, 1964

B.5.4. REPORT NUMBER SEARCH (ID)

There are two types of "numbers" indexed.

1. The report numbers:- assigned by source organization or by the SLAC Library for use on PPP:

SLAC-PUP-495
CERN-D.PH.II 72-5
LBL-4095
PRINT-72-4950

2. The internal reference numbers (IRN) - assigned sequentially as documents are entered in files. Useful only to file managers.

Documents may be located by their report numbers (i.e., SLAC-PUB-505) in the PREPRINT and PROPOSAL files. Report numbers are not indexed in DESY, but are included in the publication note (PBN).

You may search ID# by converting all special characters (. - / () to blanks for easier typing. Search for SLAC-PUB-1095 as follows:

FIND? ID SLAC PUB 1095

Remember, however, that C, A and E are reserved for citation, author and date.

FIND? id c 72 04 08 01
would have to be searched as

FIND? id c-72 04 08 01

or
FIND? id "c 72 04 08 01"

Print numbers such as PRINT-72-1595 (RUTGERS) are indexed without the parenthesized material and thus may be searched:

FIND? id print 72 1595

WARNING! The right-truncation sign (#) may not be used in the ID search.

!!! RIGHT: FIND? SLAC-PUB-757
WRONG: FIND? SLAC-PUB#

B.5.5. TITLE WORD SEARCH (II)

All significant title words are indexed in all files. Appendix D1 lists those very common words which are excluded from the title word indices, i.e. THE, AT, BY, etc.

Numbers are not indexed unless they are hyphenated to letters.

INDEXED: 20-GeV

NOT INDEXED: 20 GeV

In the preprint files, energies are edited into indexable form. 20 GeV is entered as 20-GeV.

Hyphens cause a phrase to be indexed as one word i.e., Bethe-Salpeter.

EXAMPLE:
WRONG: FIND? ti Bethe and ti Salpeter

!!! RIGHT: FIND? ti Bethe-Salpeter
or ? ti Bethe#

In the preprint files, hyphens are often edited out of titles (or spaces inserted around the hyphens) to facilitate title word searching. For example lepton-neutrino would be typed lepton - neutrino.

It is not possible to search for ti photon photon in cases where the two photons are not joined by a hyphen. (For this search, better use DESY topic search FIND? TP PHOTON PHOTON#)

Title word frequency lists are available for all files and are very useful in identifying the many forms (including even misspellings) which words take. For example in the title word frequency list for the PREPRINT file, you will find the following:

Occurrences	Word
5	ACCELERATED
8	ACCELERATING
9	ACCELERATION
223	ACCELERATOR
1	ACCELERATOROP
27	ACCELERATORS

To obtain all of these entries with one search phrase, use:

FIND? ti accelerat#

To obtain only the actual ACCELERATOR entries, however, use:

FIND? ti accelerator#

Particle names are written somewhat differently in the PREPRINT file and in the DESY files after 1970.

PREPRINT (1968-current)	DESY (1970-current)
anti-k	anti-K
K-zero	K0
K-minus	K-
K-plus	K+
pi-plus-minus	pi+-

In searching by title, remember that KACN or PION may be used in a title rather than K or PI.

To be sure of search terms, consult TITLE WORD FREQUENCY LISTS near the preprint display in the SLAC Library or run your own:

exe fro wyl.li.pub.lib#spilists

B.5.5.1 FOREIGN LANGUAGE TITLES

In both the PREPRINT and the DESY files, only English titles are entered, whatever the language of the original. For the DESY files, the language (other than English) is included as part of the title.

EXAMPLE: A STREAMER CHAMBER WITH LIQUID HYDROGEN TARGET (IN RUSSIAN)

Thus, in the DESY files it is possible to include or exclude a language by using the title search.

EXAMPLE: FIND? tp photon-photon# and ti russian

locates only papers in Russian.

EXAMPLE: FIND? tp photon-photon# and not ti russian

excludes papers in Russian (and any other paper with the word RUSSIAN in the title)

NOTE: DESY indexes Russian papers directly from Russian journals, 6 months to a year before they appear in the English Translation journals. For help in locating the English version of a Russian journal consult a SLAC librarian.

During the years 1968-70, foreign language titles and English translated titles were both entered in the preprint file. Original language titles were little used and completely dropped in 1971. However, when choosing only titles for display in the preprint search, choose T,TT to include English version of older titles.

B.5.6 TOPIC SEARCH (TP)

When searching is limited to words in titles, many relevant papers may be overlooked because of inconsistent terminology or because titles do not fully reflect the content of papers. To make subject searching more successful, topic phrases are assigned (by physicists) to all papers indexed in the DESY High Energy Physics Index. As many as 20 separate topics may be assigned to a single paper.

The language of the topic phrases is standardized so that once an appropriate topic is found it can be used to retrieve all other papers on the same subject.

To locate topic phrases before searching, consult the "Topic Frequency Lists" available in the SLAC Library near the preprint display or make your own by:

```
exe fro #wyl.li.pub.lib#spilists
```

Cross references and explanatory material are included in combined TOPIC FREQUENCY LIST FOR DESY72/73 and 74/75. Copies of this list have been printed in a handy photo-reduced format and are available in the SLAC Library.

EXAMPLES OF SPIRES I TOPIC-WORD SEARCH:

1. FIND? search DESY72
FIND? tp model,pcle

Search No. 1 retrieves the 76 documents which have been assigned the keyword MODEL,POLE, but does not retrieve MODEL,POLE DOMINANCE or MODEL,POLE EXTRAPOLATION. Searching MODEL, POLE would have retrieved 0 documents because the space left after the comma is not actually in the keyword.

2. FIND? tp model,pcle#

Search No. 2, however, retrieves all three possible versions by using # which is the right truncation feature.

3. FIND? tp pi deuterium,elastic scattering or tp pi deuterium,inte ction
? tp experimental result#

Search No. 3 retrieves all documents which have as keywords either PI DEUTERIUM,ELASTIC SCATTERING or PI DEUTERIUM,INTERACTION. It then narrows the results to those containing EXPERIMENTAL RESULT#.

4. FIND? tp pi deuterium#

Search No. 4 retrieves all documents having PI DEUTERIUM as keyword, including PI DEUTERIUM,COINCIDENCE METHOD; PI DEUTERIUM,ELASTIC SCATTERING; PI DEUTERIUM INTERACTION.

WARNING: Topic words must be stated in the search with no spaces between comma and second term.

WRONG: FIND? TP PHOTON-PHOTON, INTERACTION

!!!! RIGHT: FIND? TP PHOTON-PHOTON,INTERACTION !!!!

The topic words print out with spaces after the commas but must be searched without spaces.

WARNING: Topic phrases may be truncated only once, at the end (unlike title words which allow multiple truncations in a single phrase).

WRONG: FIND? TP PHOTON# INTERACTION#

!!!! RIGHT: FIND? TP PHOTON-PHOTON,INT# !!!!

Topics are not displayed in default format but must be chosen for output (see Section B.6.3). K (keyword) is the name of the data element indexed as TOPIC.

EXAMPLE:

```
FIND? topic photon deuterium,interaction
      92 documents
      ? choose
ELEMENTS? t,a,af,ptn, k
ELEMENTS? <CR>
      ? type own length 60
```

DESY topic assignments include complete reactions, terms such as Review, Lecture, thesis, Conference, Experimental Data (Bubble Chamber), and the names of accelerators where experiment was done.

B.5.6.1 NEW TOPICS

New discoveries, new equipment, new ideas all pose problems for the indexer. It is not always clear at first what terminology will emerge victorious. An example is the PSI-J particles which for most of 1974/75 were indexed in DESY as

```
NEW PARTICLE(3100)
NEW PARTICLE(3700)
```

Then in mid 1975, the following terms were adopted by DESY:

```
J(3100)
PSI(3700)
X(4100)
```

with cross references in the frequency listing. Thus, in case of new terms, proceed with care.

B.6. OUTPUT

You can at anytime during a search list results at your terminal or save them in a WYLBUR file for later listing offline.

SPIRES I output is always in reverse chronological order with the most recent documents listed first.

Default line length for all formats is 120 characters. Line length may be set to any length up to 120 by the addition of a length statement with the output command.

```
? type save length 70
```

(In all examples, the n is the line length to be used in the listing.)

When listing at a terminal, strike ATTN button to halt listing (keep hitting it until listing stops). SPIRES will prompt

```
NEXT ITEM?
```

Answer YES to continue listing, NO to return to OPTION.

Type length 70 causes output to be printed within an 8 1/2 X 11 format.)

Three possible formats are available for listing SPIRES. Examples of each of the formats are shown in Section C.

B.6.1. DEFAULT FORMAT

Default format displays title, authors,, and affiliation and enough information about the item so that it may be located in a library.

To use default format, give one of the following commands:

```
? TYPE
? TYPE LENGTH n
? TYPE SAVE
? TYPE SAVE LENGTH n
```

B.6.2. EXTENDED FORMAT (type extended)

Extended format displays everything that was input with a particular entry and identifies each data element by name. Because extended output is so VERBOSE, it is of little use except for helping users identify the data elements in a particular file.

To use extended format issue one of the following commands:

```
? TYPE EXTENDED
? TYPE EXTENDED LENGTH n
? TYPE EXTENDED SAVE
? TYPE EXTENDED SAVE LENGTH n
```

B.6.3. "OWN" FORMAT (type own)

You may set (and later reset) your own format at any time during a search by CHOOSING the data elements you wish to list. For instance, you may wish to see only titles while checking the success of a search strategy.

To set your own format to display title only:

```
? CHOOSE
ELEMENTS? t, tt
ELEMENTS? (carriage return)
TO USE THIS FORMAT, ENTER TYPE OWN
```

To use your OWN format, issue one of the following commands:

```
? TYPE OWN
? TYPE OWN SAVE
? TYPE OWN LENGTH n
? TYPE OWN SAVE LENGTH n
```

Your own format remains set throughout the current session until you exit from SPIRES or choose another group of data elements. DEFAULT and EXTENDED formats are also available, whether or not you have set your own format.

To reset "OWN", type

```
? CHOOSE
```

at any time during a search.

TABLE OF DATA ELEMENTS

DATA ELEMENT NAME		SEARCH		
Short Form	Long Form	TERM	DESY	PREPRINT
A	author	a	*x	*x
AF	affiliation		*x	*x
JVP	citations	c		x
CN	collaboration notes			*x
D	date	d	*x	*x
DR	date received	d		*x
IRN	internal ref number	id	x	x
J	journal (submitted to)			x
L	language			x
MN	meeting notes			x
N	notes			x
P	pages			x
PPF	PPF list no.			x
EBN	publication note		*x	*x
R	report number	id	*x	*x
SCL	SLAC PPF Class (ETR..)		x	x
T	title	ti	*x	*x
K	topic	tp	x	x
TT	translated title			x
TN	translation notes			x

* included in default format

In the DESY file, many items such as pages, meeting notes, etc. are included in the publication note. P in the DESY file is the abstract number in the printed HEP Index and of little value to the user though it is included in default format.

B.6.4 RECOMMENDED FORMATS

Default format is adequate for many purposes, but as you become more familiar with SPIRES you will probably wish to use the recommended formats for each file.

RECOMMENDED OUTPUT FORMATS

DESY: a,af,d,k,pbn,scl,t

PREPRINT (complete): a,af,cn,d,dr,k,l,mn,n,p,pbn,r,scl,t,tn,tt

PREPRINT (brief): T,R,PBN,A

PROPOSAL: a,af,k,d,r,t

B.6.5 "SAVE" FILES

The TYPE SAVE command copies current search results into a WYLBUR file on SCR001. After your first "SAVE" during a session, SPIRES will tell you the name of your "SAVE" file.

```
? TYPE SAVE LENGTH 70
YOUR OFFLINE SAVE FILE IS WYL.LI.PUB.SPIRES.ZQ1 ON SCR001
```

OPTION?

The filename will remain the same throughout the session but will not be repeated.

B.7 THE EXIT AND USING "SAVED" OUTPUT

To return to WYLBUR after completing a SPIRES search, type EXIT in response to any prompt.

```
OPTION? exit
SYSTEM? wylbur
```

If you created a "save" file during your SPIRES search it will become accessible when SPIRES goes off the air for the day. If you brought SPIRES up yourself, your save file won't be available until you cancel your SPIRES job.

Check to find out whether SPIRES is still a system by:

```
COMMAND? sho sys
          WYLBUR
          APACUS
```

B.7.1 EXECUTE FILE TO USE SAVED OUTPUT (WYL.LI.PUB.LIB#SPIOUT)

The easiest way to utilize "saved" SPIRES output is to issue the command:

```
exe fro wyl.li.pub.lib#spiout on cat clr
```

This brings into action a WYLBUR "EXECUTE" file which will ask you for the name of your save file, will retrieve it for you, insert the relevant search questions in front of each set of results, and make an off line listing for you.

```
WARNING! If entire triplex system crashes during a SPIRES
          search, your save file will be ok but #spiout
          may fail. If this happens, retrieve your
          save file directly as described in Section B.7.2.
```

B.7.2. DIRECT USE OF "SAVE" FILE

You may use your SPIRES "save" file like any other wylbur data set and list its contents on the printer.

```
COMMAND? use wyl.li.pub.spire.### on scr001 clr
COMMAND? list offline uplow unnumbered
```

where ### is an alphanumerical designation like ZQ1.

The results of separate searches are marked off by

* START *

Search questions are not included in this version of the "save" file.

B.8 OBSTACLES (circumventing "THE BUG" and other mysteries)

Three types of problems arise for new SPIRES I users:

1. SPIRES I system problems

SPIRES I was developed as a prototype system for use with small data bases (i.e., 5000 documents or less). Some problems arise when it is used for searching relatively large files such as DESY or PREPRINT. (SPIRES II and III, of course, allow very large files with no difficulty. The Stanford Library MARC file currently contains more than a half million entries).

2. Inexperienced-user problems

Unfamiliarity with SPIRES I syntax leads to some oft repeated user difficulties.

3. Database content problems

Differences in file content and overlap among DESY and PREPRINT files puzzle new users.

This section warns of the most commonly experienced problems, explains them, and demonstrates strategies for overcoming them.

B.8.1 THE BUG

PROBLEM: If you are conducting the same search in several SPIRES I files, i.e., compiling a bibliography of your own papers from 1968 to present, the search may not always clear itself between files. A warning sign would be your finding the same number of documents in DESY72/73 and DESY74/75. If you displayed the second group of documents you might discover that they had nothing to do with your papers.

SOLUTION: Do a 'DUMMY' search before or after switching files.

```
EXAMPLE:  FIND?  search DESY74/75
          FIND?  author myself, i.
          25 DOCUMENTS ACCUMULATED
          ? type save length 70
          OPTION? search DESY72/73
          FIND?  A MYSELF, I.
          25 DOCUMENTS ACCUMULATED
```

```
WARNING! 25 documents in both files? Probably search did not clear
? RESTART
FIND? author clearthe file
          0 DOCUMENTS ACCUMULATED
FIND? author myself, i.
          11 DOCUMENTS ACCUMULATED
```

B.8.2 TOO MANY DOCUMENTS ACCUMULATED (1000-document limit)

PROBLEM: As explained in SECTION 4.6.2, SPIRES I collects a STACK of documents for each term of a search statement and compares stacks to find matches. Since the working area (buffer) will hold only 1000 entries at one time, the search in large files sometimes fails in the comparison stage. The message is

```
TOO MANY DOCUMENTS ACCUMULATED
SEARCH RESET
```

This, of course, can happen even when the final search result is expected to be very small.

SOLUTION: To circumvent this problem, use fewer search terms in the initial search statement to cut down the number of stacks in the working area.

EXAMPLE: FIND? TI INELASTIC SCATTERING
TOO MANY DOCUMENTS ACCUMULATED

In this example, SPIRES I has tried to collect two stacks, one with all entries having INELASTIC in the title and one with all entries having SCATTERING in the title. Since both scattering and inelastic are common terms, the total documents in the working area would exceed 1000 and the search fails.

EXAMPLE: FIND? TI INELASTIC
549 DOCUMENTS ACCUMULATED
? AND TI SCATTERING
301 DOCUMENTS ACCUMULATED

In this example: a stack of 549 documents (TI INELASTIC) is accumulated in the working area. This stack is then examined for occurrences of the word scattering. Entries lacking scattering are dismissed from the stack. (INELASTIC was chosen as the first search term because it is less frequently used than SCATTERING.)

EXAMPLE: FIND? search DESY74/75
FIND? TOPIC EXPERIMENTAL RESULTS#
TOO MANY DOCUMENTS ACCUMULATED
FIND? TOPIC EXPERIMENTAL RESULTS (HYDROGEN BUBBLE CHAMBER)
200 DOCUMENTS ACCUMULATED

Note that this search is for a topic rather than title words. In topic searching, each topic phrase is one search segment, no matter how many words it contains. Thus it is possible to narrow a topic word search by increasing the length of the topic phrase. (Consult the DESY topic frequency lists for aid.)

EXAMPLE: FIND? TP PHOTON PHOTONS AND TP EXPERIMENTAL RESULTS#
TOO MANY DOCUMENTS ACCUMULATED
FIND? TP PHOTON PHOTONS
230 DOCUMENTS ACCUMULATED
? TP EXPERIMENTAL RESULTS#
40 DOCUMENTS ACCUMULATED

B.3.3 ERROR IN PROCESSING

Occasionally you may become so entangled in search syntax errors or overly complex search statements that SPIRES cannot respond at all. In this case, SPIRES will reject you:

ERROR IN PROCESSING
YOU ARE BEING SIGNED OFF SPIRES

SYSTEM? spires
Welcome to SPIRES...

When this happens you can immediately sign back into SPIRES for another session. Your SAVE file from the aborted session will be OK, but you will be assigned a new save file each time you sign into SPIRES.

B.3.4 THIS FILE IS NOT MOUNTED FOR SEARCHING

If you mistype a SPIRES filename you will get the message that "THIS FILE IS NOT MOUNTED"

WRONG: search DESY 74/75
!!! RIGHT: search DESY74/75 !!!

The same thing happens if you actually ask for a file that is not currently mounted. Check the sign-on message or issue HELP to get file name information.

B.8.5 SYNTAX ERROR

Each time you forget the proper SPIRES I search syntax, you will be admonished

SYNTAX ERROR

followed by a vaguely explanatory message.

WRONG: FIND? DEEP INELASTIC SCATTERING
SYNTAX ERROR
FIND MAY NOT BE FOLLOWED BY DEEP
SEARCH RESET

!!! RIGHT: FIND? TP DEEP INELASTIC SCATTERING !!!

WRONG: FIND? TP RHO (765)
SYNTAX ERROR
SEARCH RESET

!!! RIGHT: FIND? TP "RHO(765)"

(Reserved characters used in search term, see section B.4.9)

In most instances a bit of thought will lead to correction of the syntax error. In one case, however, spires puts out a syntax error unnecessarily.

EXAMPLE: FIND? TI PSI AND AUTHOR AUGUSTIN
3 DOCUMENTS ACCUMULATED

? DATE BEFORE NOV 1974
0 DOCUMENTS ACCUMULATED
BACKUP? YES
SEARCH RESET TO LAST 3 DOCUMENTS
? DATE NOV 1974
SYNTAX ERROR
SEARCH RESET
? DATE NOV 1974
2 DOCUMENTS ACCUMULATED

After a backup from 0 documents accumulated, a correct search statement will always be labelled a syntax error. Ignore the message and try again.

B.8.6 TOPIC SEARCH PROBLEMS

PROBLEM: You do not have a topic frequency list but you have found a document in a DESY file that is on your subject. You have displayed the keywords for this document and switched to a topic search Using your new found TOPIC you get 0 DOCUMENTS ACCUMULATED even though you know there is at least one document in the file with this topic assigned.

SOLUTION: You probably typed a space after the comma in your keyword (because that's the way it looked in the display). You were wrong. No spaces are allowed after commas in the topic search.

EXAMPLE: WRONG: FIND? TP DEEP INELASTIC SCATTERING, MUON
0 DOCUMENTS ACCUMULATED

!!! RIGHT: FIND? TP DEEP INELASTIC SCATTERING,MUON
23 DOCUMENTS ACCUMULATED

PROBLEM: You have found a TOPIC in the DESY74/75 file that just suits you. You found 18 documents in 74/75, 40 documents in 72/73, and expected to find even more in 1970/71. BUT you found 0 in 1970/71.

SOLUTION: Probably the term changed. Check topic frequency list or do a title search and display topics on a paper in the 1970/71 file.

```
EXAMPLE: SEARCH? DESY70/71
FIND? TP PROPORTIONAL WIRE CHAMBER
      95 DOCUMENTS ACCUMULATED
? SEARCH DESY72/73
FIND? TP CLEARSEARCH
      0 DOCUMENTS ACCUMULATED
FIND? TP PROPORTIONAL WIRE CHAMBER
      145 DOCUMENTS ACCUMULATED
? SEARCH DESY74/75
FIND? TP CLEARSEARCH
      0 DOCUMENTS ACCUMULATED
FIND? TP PROPORTIONAL WIRE CHAMBER
      0 DOCUMENTS ACCUMULATED
FIND? AUTHOR CLEARPAK
      25 DOCUMENTS ACCUMULATED
? CHOOSE
ELEMENTS? T,K,PSN
ELEMENTS?
TO USE THIS FORMAT TYPE OWN
OPTION? TYPE OWN LENGTH 70

      T  PROPORTIONAL CHAMBERS FOR A 50 000-WIRE DETECTOR
      K  PROPORTIONAL CHAMBER   MAGNETIC FIELD   P
      P  P, COLLIDING BEAMS    COLLIDING BEAMS, P P   FAST LOGIC
PSN NUCL. INSIR. METHODS 115 (1974) 235-244

OPTION? RESTART
FIND? TP PROPORTIONAL CHAMBER
      103 DOCUMENTS ACCUMULATED
```

In this example, the DESY topic changed in 1974 from PROPORTIONAL WIRE CHAMBER to PROPORTIONAL CHAMBER.

B.8.7 DATA BASE REDUNDANCIES

For retrospective subject searching, the DESY files are more complete than the PREPRINT file since some 40- to 50-percent of the high-energy physics literature is never preprinted. When compiling a complete bibliography, however, it is wise to search both DESY and PREPRINT.

Because the DESY tapes are created to produce a printed index, they contain entries for preprints and later, second entries for the published versions of preprints. This produces some duplicate entries in DESY search results.

Since publication information is added directly to the PREPRINT file entries, the preprint file has no internal duplications. However, most preprints (but as yet not all) in the preprint database are also indexed in the DESY files.

When these files are moved to the more flexible SPIRES III, we hope to eliminate most redundancies in a unified file.

B.8.8 LISTING WON'T HALT

Sometimes, SPIRES I will seem to run away with a listing at the terminal, ignoring the ATTN button. Keep trying. (You must catch it at the right point in the listing cycle.)

C. SAMPLE SEARCHES

show sys

MYLIST

PRINT

1.1

Welcome to SPIRES. For help, type SHOW HELP.
Files: PREPRINT 32,926 entries(9-26-75); DESY72/73, 20086 complete, DESY74/75, 16,694 entries(9-75);

SEARCH ? preprint

FIND ? a gell-mann or a fritsch,h.

AUTHOR SEARCH FOR... GELL-MANN

AUTHOR SEARCH FOR... FRITZSCH,H.

25 DOCUMENT(S) ACCUMULATED.

? restart

FIND ? a gell-mann and a fritsch,h.

AUTHOR SEARCH FOR... GELL-MANN

AUTHOR SEARCH FOR... FRITZSCH,H.

6 DOCUMENT(S) ACCUMULATED.

? horn, d.

AUTHOR SEARCH FOR... HORN, D.

0 DOCUMENT(S) ACCUMULATED.

BACKUP? NO

FIND ? a gell-mann and not a fritsch*

AUTHOR SEARCH FOR... GELL-MANN

AUTHOR SEARCH FOR... FRITZSCH

7 DOCUMENT(S) ACCUMULATED.

? horn, d.

AUTHOR SEARCH FOR... HORN, D.

1 DOCUMENT(S) ACCUMULATED.

? type length 44

T REPRESENTATION OF CURRENT ALGEBRA AT INFINITE MOMENTUM:

SOLUTION OF THE CASE IN WHICH ISOTOPIC SPIN FACTORS OUT

A Gell-Mann, M. Horn, David Weiers, Jacques

AF Cal Tech Tel-Aviv U. SLAC

R SLAC-PUB-421

P 17

D 1968

PBN Proc. of the Heidelberg Int. Conf. on Elementary

Particles, Heidelberg, Germany, 1967. Amsterdam North

Holland Pub. Co., 1968. p. 479-95

OPTION ? search

? or a horn

AUTHOR SEARCH FOR... HORN, D.

30 DOCUMENT(S) ACCUMULATED.

? date after 1971

DATE SEARCH AFTER JAN 1971

15 DOCUMENT(S) ACCUMULATED.

? date 1975

DATE SEARCH FROM JAN 1975 THRU DEC 1975

4 DOCUMENT(S) ACCUMULATED.

? choose

ELEMENTS ? t,r,pbn

ELEMENTS ?

TO USE THIS FORMAT, ENTER: TYPE OWN.

? type own length 70

R Print-75-0747 (TEL-AVIV) C75/07/14-5

T LEPTON INDUCED HADRONIC REACTIONS

R SACLAY-DP..T-75/79

T THE RISE OF PSI PHOTOPRODUCTION

R TAUP-471-75

T SUPPRESSION OF PSI PHOTOPRODUCTION

R TAUP-458-74

T ANALYSIS OF THE MUELLER REGGE MODEL

PBN Nucl.Phys.891:117,1975

OPTION ? type own length 70

YOUR OFFLINE SAVE FILE IS WL.LI.PUB.SPIRES.YD1 ON SCR001

OPTION ? or

FIND ? a gell-mann and a fritsch

AUTHOR SEARCH FOR... GELL-MANN

AUTHOR SEARCH FOR... FRITZSCH

25 DOCUMENT(S) ACCUMULATED.

? or a gell-mann and a horn,h.

AUTHOR SEARCH FOR... GELL-MANN

AUTHOR SEARCH FOR... HORN, D.

7 DOCUMENT(S) ACCUMULATED.

? code to light cone

TITLE SEARCH FOR... LIGHT * CONE *

2 DOCUMENT(S) ACCUMULATED.

? date after 1971

DATE SEARCH AFTER JAN 1971

15 DOCUMENT(S) ACCUMULATED.

? type own length 70

R CALT-65-517

T VECTORLIKE WEAK CURRENTS AND NEW ELEMENTARY FERMIONS

OPTION ? or

FIND ? a gell-mann and a fritsch or a horn,h.

AUTHOR SEARCH FOR... GELL-MANN

AUTHOR SEARCH FOR... FRITZSCH

AUTHOR SEARCH FOR... HORN, D.

TITLE SEARCH FOR... LIGHT CONE

25 DOCUMENT(S) ACCUMULATED.

? restart

DO NOT use to determine whether SPIRES is available.

To sign on, type SPIRES.

The sign-on message tells which files are available.

Specify the file you wish to use. SEARCH? preprint

Each new search begins with FIND?

Codes A, T, I, D, or TP must be repeated before each author, title word, citation, date, year up, or issue.

OR broadens the search to references with either one or both authors.

AND narrows the search to only references with both authors.

AND is implicit after 2 unless OR is stated.

AND NOT = AND NOT. D. Horn is further narrowed to papers with no other authors. Two such papers are found. We chose not to keep one step to the previous 4 documents.

ALL NOT narrows the search to papers having neither title nor author as specified by Fritsch. The right truncation sign allows us to spell only part of the name Fritsch.

PRINT? search continues the same search. On a term command scope of search to all papers by term.

PRINT? shows the results of the search and allows a new search to begin with FIND?

DATE SEARCH? 1975 finds all of Horn's papers dated 1975. The date command can also be used to search by year.

TYPE, own, length, and format are chosen as the format for examining the search results.

TYPE own displays the data elements chosen.

TYPE own places the results (in default format) in a private WLIB file for later retrieval.

LENGTH? 70 Default line length 70.

These two examples illustrate the use of parentheses for searching search elements. The second search finds three papers previous from the first search combined into one search phrase.

FIND? TI CURRENT ALGEBRA INFINITE MOMENTUM
 TITLE SEARCH FOR... CURRENT ALGEBRA INFINITE MOMENTUM
 TOO MANY DOCUMENTS WERE ACCUMULATED FOR THE CURRENT SEARCH.
 SEARCH RESET
 FIND? TI INFINITE MOMENTUM
 TITLE SEARCH FOR... INFINITE MOMENTUM
 3 DOCUMENT(S) ACCUMULATED.
 ? TI CURRENT
 TITLE SEARCH FOR... CURRENT
 10 DOCUMENT(S) ACCUMULATED.
 ? TI ALGEBRA
 TITLE SEARCH FOR... ALGEBRA
 8 DOCUMENT(S) ACCUMULATED.
 ? type own length 70
 R Print-75-320 (NYU, COURANT)
 T DEEP INELASTIC ELECTRON - NUCLEON SCATTERING IN THE FRAMEWORK OF
 DASHEN AND GELL-MANN'S CURRENT ALGEBRA AT INFINITE MOMENTUM -- A
 UNIFIED APPROACH TO RESONANCES AND PARTONS
 PBN Phys.Rev.08:2539,1973

R CALT-68-280
 T LOW MOMENTS OF CURRENT ALGEBRA AT INFINITE MOMENTUM
 PBN Phys...
 NEXT ITEM TI
 OPTION ? RESET

FIND? TI CURRENT
 TITLE SEARCH FOR... INFINITE MOMENTUM
 5 DOCUMENT(S) ACCUMULATED.
 ? TI CURRENT
 TITLE SEARCH FOR... CURRENT
 1 DOCUMENT(S) ACCUMULATED.
 ? type own

R 074-2052 303174
 T DEEP-INELASTIC ELECTRON-NUCLEON SCATTERING IN THE FRAMEWORK..
 NEXT ITEM TI
 OPTION ? RESET
 ELEMENTS ? TI, ALGEBRA
 ELEMENTS ?
 TO USE THIS FORMAT, ENTER: TYPE OWN.
 ? type own length 70

T DEEP-INELASTIC ELECTRON-NUCLEON SCATTERING IN THE FRAMEWORK OF
 DASHEN-GELL-MANN CURRENT ALGEBRA AT INFINITE MOMENTUM - A UNIFIED
 APPROACH TO RESONANCES AND PARTONS.
 K ELECTRON NUCLEON, DEEP INELASTIC SCATTERING DEEP INELASTIC
 SCATTERING, ELECTRON NUCLEON CURRENT ALGEBRA STRUCTURE
 FUNCTION MODEL, PARTON SCALING SUM RULE MODEL,
 RESONANCE RESONANCE, MODEL
 PBN PHYS. REV. D8 (1973) 3539-3558.

OPTION ? RESET
 FIND? TI INFINITE MOMENTUM AND TI CURRENT ALGEBRA
 TITLE SEARCH FOR... INFINITE MOMENTUM
 TOPIC SEARCH FOR... CURRENT ALGEBRA
 2 DOCUMENT(S) ACCUMULATED.

? Search reset/75
 FIND? TI INFINITE MOMENTUM AND TI CURRENT ALGEBRA
 TITLE SEARCH FOR... INFINITE MOMENTUM
 TOPIC SEARCH FOR... CURRENT ALGEBRA
 4 DOCUMENT(S) ACCUMULATED.
 ? type own length 70

T A UNIFIED APPROACH TO RESONANCES AND PARTONS AS A REPRESENTATION
 OF THE FRITZSCH-GELL-MANN BILOCAL ALGEBRA AT INFINITE MOMENTUM.
 K FIELD THEORY, OPERATOR ALGEBRA MODEL, RESONANCE RESONANCE,
 MODEL MODEL, PARTON SCALING CURRENT ALGEBRA
 PBN LETTERE NUOVO CIMENTO 7 (1973) 931-935.

T QUANTUM FIELD THEORIES IN INFINITE MOMENTUM FRAME. III.
 QUANTIZATION OF COUPLED SPIN ONE FIELDS.
 K FIELD THEORY, MODEL FERMION..
 NEXT ITEM TI
 OPTION ? RESET
 ? type own length 70
 SYSTEM? WYJSDP
 ?

There is an implicit AND between each title word
 in the title search.

TI CURRENT ALGEBRA INFINITE MOMENTUM = TI CURRENT and
 TI ALGEBRA and TI INFINITE and TI MOMENTUM
 The 1000 document limit is exceeded because SYSTEMS 1
 builds a stack for each title word and then compares
 stacks. By breaking this search into segments, it
 is possible to find the few documents that actually
 combine these words in their titles.

To switch to a different database, type SEARCH and
 give name of new database.
 OPTION search reset/75

In the DSY files, many topic phrases are available
 for searching. To locate the topic phrases you need
 either use the printed DSY TOPIC FREQUENCY LIST
 or do a title search and choose a format that
 includes K topics. By a TOPIC list, the topics
 are displayed and further selection options can be
 found through the TOPIC search.

TOPIC and TITLE WORD searches may be combined.

The name of the user's save file is given only once.

To return to WYJSDP, type EXIT.

•• Welcome to SPIRES. For help, type SHOW HELP.
 files: DESY74/75, 16,694 ENTRIES (9-75)
 SEARCH DESY74/75
 FIND? ti storage ring
 TITLE SEARCH FOR... STORAGE RING #
 120 DOCUMENT(S) ACCUMULATED.

? ti luminosity
 TITLE SEARCH FOR... LUMINOSI #
 4 DOCUMENT(S) ACCUMULATED.

? choose
 ELEMENTS? t,pbn,k
 ELEMENTS?
 TO USE THIS FORMAT, ENTER: TYPE OWN.
 ? type own length 70

T A PRECISION LUMINOSITY MONITOR FOR USE AT ELECTRON-POSITRON
 STORAGE RINGS.
 K ELECTRON POSITRON, STORAGE RING STORAGE RING, LUMINOSITY
 QUANTUM ELECTRODYNAMICS, VALIDITY TEST, INSTANTANEOUS CORRELATION
 BEAM MONITORING ELECTRON POSITRON, ELASTIC SCATTERING
 ELASTIC SCATTERING, ELECTRON POSITRON ELECTRON POSITRON,
 INTERACTION INTERACTION, ELECTRON POSITRON MUON+, FINAL
 STATE FINAL STATE, MUON+ MUON-, FINAL STATE FINAL STATE,
 MUON- PHOTON, FINAL STATE FINAL STATE, PHOTON SLAC STOR
 ELECTRON POSITRON --> MUON+ MUON- ELECTRON POSITRON -->
 2PHOTON 2.6 GEV-EACH BEAM
 PBN STANFORD UNIV - HEPL-730 (75,REC.JUN) 37 P.

T STORAGE R...
 NEXT ITEM? ti
 OPTION? search
 ? or to storage ring, luminosity
 TOPIC SEARCH FOR... STORAGE RING, LUMINOSITY
 62 DOCUMENT(S) ACCUMULATED.

? not to slac
 TOPIC SEARCH FOR... SLAC #
 61 DOCUMENT(S) ACCUMULATED.

? backup
 SEARCH RESULTS RESET TO LAST 62 DOCUMENTS
 ? choose
 ELEMENTS? t,p,of,own,k
 ELEMENTS?
 TO USE THIS FORMAT, ENTER: TYPE OWN.
 ? type own length 70

T THE BEHAVIOUR OF BETATRON OSCILLATIONS IN THE VICINITY OF
 HALF-INTEGRAL STRUCTURE RESONANCES.
 A KEIL, E SLAC STANFORD
 K BETATRON OSCILLATION ELECTRON POSITRON, STORA...

NEXT ITEM? ti
 OPTION? type own save length 70
 YOUR OFFLINE FILE IS TYL.LI.PUB.SPIRES.XD1 ON SCR001
 OPTION? restart

FIND? to charged particle production
 TOPIC SEARCH FOR... CHARGED PARTICLE, PRODUCTION
 65 DOCUMENT(S) ACCUMULATED.

? to experimental result
 TOPIC SEARCH FOR... EXPERIMENTAL RESULT #
 8 DOCUMENT(S) ACCUMULATED.

? backup
 SEARCH RESULTS RESET TO LAST 66 DOCUMENTS
 ? to interpretation

TOPIC SEARCH FOR... INTERPRETATION #
 14 DOCUMENT(S) ACCUMULATED.

? backup
 SEARCH RESULTS RESET TO LAST 66 DOCUMENTS
 ? to review

TOPIC SEARCH FOR... REVIEW
 0 DOCUMENT(S) ACCUMULATED.

BACKUP? ti
 SEARCH RESULTS RESET TO LAST 66 DOCUMENTS
 ? type own save length 70

OPTION? choose
 FIND? to electron positron, interaction and to muon, final state
 TOPIC SEARCH FOR... ELECTRON POSITRON, INTERACTION
 TOPIC SEARCH FOR... MUON-, FINAL STATE
 24 DOCUMENT(S) ACCUMULATED.

? (to experimental result or to interpretation)
 TOPIC SEARCH FOR... EXPERIMENTAL RESULT #
 TOO MANY DOCUMENTS WERE ACCUMULATED FOR THE CURRENT SEARCH.
 SEARCH RESULTS RESET TO LAST 24 DOCUMENTS
 ? to experimental result

TOPIC SEARCH FOR... EXPERIMENTAL RESULT #
 4 DOCUMENT(S) ACCUMULATED.

? backup
 SEARCH RESULTS RESET TO LAST 24 DOCUMENTS
 ? to review

TOPIC SEARCH FOR... REVIEW
 0 DOCUMENT(S) ACCUMULATED.

BACKUP? ti

To do a topic search in the DESY files it is useful to consult the DESY TOPIC FREQUENCY LIST to locate the correct topic phrases. In this example, however, a title search locates a paper on the desired subject. A format is chosen that includes topics (K) and topic phrases are displayed. The correct phrase is located.

Note that there is NO SPACE after comma in actual topic phrases as used in search, although displayed version of keyword contains space.

A more complete format is chosen for saved output.

TYPE OWN SAVE LENGTH 70 puts 40 references on storage ring luminosity into your file TYL.LI.PUB.SPIRES.XD1 on SCR001 for later retrieval. Title, authors, affiliations, publication notes, topic words (K) are included in an 8-1/2 x 11" format.

RESTART begins the next search.

Searcher is now using topic phrases chosen directly from the printed DESY TOPIC LIST. Papers on charged particle production are narrowed to those containing experimental result. Search is then backed up and again narrowed, this time to papers containing interpretation of experiments. No results are found because this topic is not used in DESY74/75 (though it is used in previous years).

TOO MANY DOCUMENTS ARE stacked during some stage of this search so it must be broken into steps.

FIND? to "psi(3700)"
 TOPIC SEARCH FOR... PSI(3700)
 11 DOCUMENT(S) ACCUMULATED.

? or to new particle "psi(3700)"
 TOPIC SEARCH FOR... NEW PARTICLE, (3700)
 114 DOCUMENT(S) ACCUMULATED.

? or to "new particle, (3700)"
 TOPIC SEARCH FOR... NEW PARTICLE, (3700)
 292 DOCUMENT(S) ACCUMULATED.

? to experimental result
 TOPIC SEARCH FOR... EXPERIMENTAL RESULT
 14 DOCUMENT(S) ACCUMULATED.

? choose
 ELEMENTS ? q,pbn

ELEMENTS ?
 TO USE THIS FORMAT, ENTER: TYPE OWN.
 ? type own length 70

T A NEW PARTICLE OBSERVED IN HIGH ENERGY COSMIC RAY INTERACTIONS.
 PBN PROGR. THEORET. PHYS. 53 (1975) 1541-1543.

T SEARCH FOR CHARMED-PARTICLE PRODUCTION IN 15-BEV/C PI+ P
 INTERACTIONS.
 PBN PHYS. REV. LETTERS 34 (1975) 1118-1121 AND PREPRINT - BALTAY C
 (REC.MAR 75) 11 P. (502626)

T STUDY OF MULTI-GAMMA FINAL STATES FROM PI- P INTERACTIONS AT 40
 GEV/C WITH INVARIANT MASS ABOVE 2 GEV.
 PBN PHYSICS LETTERS 56B (1975) 190-192 AND SERPUKHOV INST HIGH EN PHYS
 - SEF 75-28 (75,REC.APR) 7 P. (503418)

T ANALYSIS OF NEUTRAL FINAL STATES IN PI- P COLLISIONS IN THE
 INVARIANT MASS RANGE ABOVE 2 GEV AT 40 GEV/C. (IN RUSSIAN)
 PBN SERPUKHOV INST HIGH EN PHYS - PEF 75-2...

NEXT ITEM ? q

OPTION ? restart

FIND? to sum rule, bloom-gilman
 TOPIC SEARCH FOR... SUM RULE, BLOOM-GILMAN
 7 DOCUMENT(S) ACCUMULATED.

? type own length 70

T NUCLEON RESONANCES AND ANOMALOUS DIMENSIONS.
 PBN KYOTO UNIV - KUNS-312 (75,REC.MAY) 11 P.

T BLOOM-GILMAN DUALITY IN RENORMALIZABLE FIELD THEORY.
 PBN PHYS. REV. D11 (1975) 341-347 AND SLAC STANFORD - SLAC-PUB-1489
 (74,REC.NOV) 10 P. (410209)

T E+ E- ANNIHILATION AND THE RATIO OF CHARGED TO NEUTRAL ENERGY.
 PBN PREPRINT - MOFFAT J W (75,REC.APR) 28 P.

T EL...

NEXT ITEM ? q

OPTION ? restart

FIND? cherenkov counters

SYNTAX ERROR

FIND? MAY NOT BE FOLLOWED BY CHERENKOV

SEARCH RESET

FIND? to cherenkov counter

TOPIC SEARCH FOR... CHERENKOV COUNTER
 53 DOCUMENT(S) ACCUMULATED.

? not to experimental result

TOPIC SEARCH FOR... EXPERIMENTAL RESULT
 11 DOCUMENT(S) ACCUMULATED.

? type own length 70

T SCINTILLATION IN GASES COMMONLY USED AS CHERENKOV RADIATORS.
 PBN HAMBURG DESY - DESY 75/16 (75,REC.JUL) 7 P.

T CHERENKOV SPECTROMETER WITH WATER RADIATOR. (IN RUSSIAN)
 PBN PRIBORY I TEK...

NEXT ITEM ? q

OPTION ? search

? in russian

TITLE SEARCH FOR... RUSSIAN
 14 DOCUMENT(S) ACCUMULATED.

? type own length 70

T CHERENKOV SPECTROMETER WITH WATER RADIATOR. (IN RUSSIAN)
 PBN PRIBORY I TEKH. EKSPERIM. NO. 1 (1975) 31-33 AND DUBNA JINR -
 P-13-7783 (74,REC.JUL) 13 P. (406013)

T THRESHOLD DIFFERENTIAL CHERENKOV SPECTROMETER. (IN RUSSIAN)
 PBN SERPUKHOV INST HIGH EN PHYS - PEF 75-27 (75,REC.MAY) 16 P.

T THE PROGRAM FOR CALCULATION OF THE EFFICIENCY OF THE RISC
 ELEMENTS. (IN RUSSIAN)
 PBN DUBNA JINR - P-10-8546 (75,REC.APR) 12 P.

T A SETUP DESIGNED FOR SEARCH FOR NEW METASTABLE PARTICLES BY MEANS
 OF DETECTING THE DELAYED HIGH ENERGY RADIATION. (IN RUSSIAN)
 PBN DUBNA...

NEXT ITEM ? q

OPTION ? restart

Parentheses are reserved characters so when they
 appear in topic phrases, phrases must be enclosed
 in double quotes (single quotes are not used in SEIBES)

In the DESY files, language (other than English) is
 included as part of title. This is so possible
 to locate all papers in Russian on a particular
 subject. DESY literature took directly from the
 Russian original journals rather than from the
 much later English translations.

FIND? to frascati storTOPIC SEARCH FOR... FRASCATI STOR #
14 DOCUMENT(S) ACCUMULATED.

? type own length

T AN EXPERIMENTAL STUDY OF ACOPLANAR (MUON $\leftrightarrow$ MUON $\leftrightarrow$) PAIRS PRODUCED
IN E $\leftrightarrow$ E- ANNIHILATION.

PBN PREPRINT - BOLLINI D (75,REC.JUL...

NEXT ITEM 2...

OPTION 2...

? or to frascati esTOPIC SEARCH FOR... FRASCATI ES #
33 DOCUMENT(S) ACCUMULATED.

? restart

FIND? to desy storTOPIC SEARCH FOR... DESY STOR
10 DOCUMENT(S) ACCUMULATED.FIND? to desy storTOPIC SEARCH FOR... DESY STOR
10 DOCUMENT(S) ACCUMULATED.? or to desy esTOPIC SEARCH FOR... DESY ES
65 DOCUMENT(S) ACCUMULATED.

? restart

FIND? to slac storTOPIC SEARCH FOR... SLAC STOR
28 DOCUMENT(S) ACCUMULATED.? or to slacTOPIC SEARCH FOR... SLAC #
134 DOCUMENT(S) ACCUMULATED.

? restart

FIND? to batavia psTOPIC SEARCH FOR... BATAVIA PS
210 DOCUMENT(S) ACCUMULATED.

? restart

FIND? to cern storTOPIC SEARCH FOR... CERN STOR #
80 DOCUMENT(S) ACCUMULATED.? or to cern psTOPIC SEARCH FOR... CERN PS #
80 DOCUMENT(S) ACCUMULATED.? or to cernTOPIC SEARCH FOR... CERN #
144 DOCUMENT(S) ACCUMULATED.? to experimental resultTOPIC SEARCH FOR... EXPERIMENTAL RESULT #
444 DOCUMENT(S) ACCUMULATED.

? restart

FIND? to activity reportsTOPIC SEARCH FOR... ACTIVITY REPORT #
87 DOCUMENT(S) ACCUMULATED.

? type own length 70

T UNILAC - PROJECT REPORT NO. 16.

PBN DARMSTADT SCHWERIONENFORSCH - GSI-PB-2-75 (75,REC.JUL) 24 P.

T NIMROD OPERATION AND DEVELOPMENT. QUARTERLY REPORT, JANUARY 1 TO
MARCH 31 1975.

PBN CHILTON RUTHERFORD LAB - RL-75-069 (75,REC.JUL) 11 P.

T NALREP - MONTHLY REPORT OF THE FERMI NATIONAL ACCELERATOR
LABORATORY, JUNE 1975.

PBN FERMILAB BATAVIA - FERMILAB-75-6 (75,REC.JUL) 26 P.

T HIGH-ENERGY HEAVY IONS - A NEW AREA FOR PHYSICS RESEARCH. (TALK)

PBN IN *UPPSALA 1973, HIGH ENERGY PHYSICS AND NUCLEAR STRUCTURE*,
AMSTERDAM 1974, 403-415 AND LAWRENCE BERKELEY LAB - LBL-205?
(75,REC.OCT) 37 P. (308975)T MEDIUM-ENERGY PHYSICS PROGRAM. QUARTERLY REPORT FOR THE PERIOD
ENDING OCTOBER 31, 1974.

PBN LOS ALAMOS SCI LAB - LA-5845-PR (75,REC.AP...)

NEXT ITEM 2...

OPTION 2...

FIND?

FIND? to field theory

TOPIC SEARCH FOR... FIELD THEORY #

TOO MANY DOCUMENTS WERE ACCUMULATED FOR THE CURRENT SEARCH.

SEARCH RESULT

FIND? to bookTOPIC SEARCH FOR... BOOK #
110 DOCUMENT(S) ACCUMULATED.? or field theory

TOPIC SEARCH FOR... FIELD THEORY #

32 DOCUMENT(S) ACCUMULATED

In DESY74/75 it is possible to identify the accelerator
where experimental work was done.

Annual reports, etc. are indexed as ACTIVITY REPORTS.

To locate a book on a subject such as FIELD THEORY
which has many more than 1000 entries in the database,
search first for books and then narrow to the chosen
topic.

? restart
 FIND? to bibliography
 TOPIC SEARCH FOR... BIBLIOGRAPHY
 559 DOCUMENT(S) ACCUMULATED.
 ? to field theory
 TOPIC SEARCH FOR... FIELD THEORY *
 88 DOCUMENT(S) ACCUMULATED.
 ? reset
 SEARCH RESULTS RESET TO LAST 446 DOCUMENTS
 ? to postulated particle, magnetic monopole
 TOPIC SEARCH FOR... POSTULATED PARTICLE, MAGNETIC MONOPOLE
 4 DOCUMENT(S) ACCUMULATED.
 ? type own length 70
 T RECENT EXPERIMENTAL RESULTS FROM THE CERN-ISR.
 PBN IN *STANFORD 1974, PROCEEDINGS, SUMMER INSTITUTE, VOL. 11, STRONG
 INTERACTIONS*, STANFORD 1974, 239-340 AND FERMILAB BATAVIA -
 FERMILAB-PUB-74/105-EXP (74, REC. JAN 75) 83 P. (500404)
 T ON THE SEARCH FOR NEW PARTICLES IN HIGH ENERGY PHYSICS.
 PBN PARIS UNIV - LPNHE 74/08 (74, REC. FEB 75) 121 P.

It is also possible to locate articles which have
 significant bibliographies.

OPTION ? restart
 FIND? to deep inelastic scattering
 TOPIC SEARCH FOR... DEEP INELASTIC SCATTERING *
 610 DOCUMENT(S) ACCUMULATED.
 ? to review
 TOPIC SEARCH FOR... REVIEW
 0 DOCUMENT(S) ACCUMULATED.
 BACKUP? yes
 SEARCH RESULTS RESET TO LAST 610 DOCUMENTS
 ? to book
 TOPIC SEARCH FOR... BOOK
 SYNTAX ERROR
 UNABLE TO LOCATE ERROR
 SEARCH RESULTS RESET TO LAST 610 DOCUMENTS
 ? to book
 TOPIC SEARCH FOR... BOOK
 10 DOCUMENT(S) ACCUMULATED.

? restart
 FIND? to collaboration
 TITLE SEARCH FOR... COLLABORATION
 178 DOCUMENT(S) ACCUMULATED.
 ? to aachen
 TITLE SEARCH FOR... AACHEN *
 53 DOCUMENT(S) ACCUMULATED.
 ? type own length 70

Collaboration names are included as part of title
 in the DSIY files. This search locates the papers
 of the AACHEN-BERLIN-BONN COLLABORATION.

T INVESTIGATION OF THE LOW MASS (PI K ANTI-K)-SYSTEM IN THE
 REACTIONS $PI^{++} P \rightarrow (PI^{++} K^{+} K^{-}) P$ AT 16 GEV/C.
 AACHEN-BERLIN-BONN-CERN-HEIDELBERG COLLABORATION.
 PBN CERN GENEVA - CERN/D.PH.11/PHYS 75-35 (75, REC. JUL) 27 P.
 T AN IMPACT PARAMETER ANALYSIS OF MULTIPARTICLE PRODUCTION IN
 MEDIUM-ENERGY MESON-PROTON INTERACTIONS.
 AACHEN-BERLIN-CERN-CRACOW-HEIDELBERG-LONDON-VIENNA-WARSZAWA
 COLLABORATION...

NEXT I.E.M. ? yes
 OPTION ? restart
 ? to aachen-berlin-bonn
 TITLE SEARCH FOR... AACHEN-BERLIN-BONN *
 23 DOCUMENT(S) ACCUMULATED.

? restart
 FIND? to pi-deuteron-->n
 TOPIC SEARCH FOR... PI-DEUTERIUM-->N *
 5 DOCUMENT(S) ACCUMULATED.
 ? to pi-deuteron-->lambda
 TOPIC SEARCH FOR... PI-DEUTERIUM-->LAMBDA *
 5 DOCUMENT(S) ACCUMULATED.
 ? to pi-deuteron-->n
 TOPIC SEARCH FOR... PI-DEUTERIUM-->N *
 5 DOCUMENT(S) ACCUMULATED.
 ? to experimental results
 TOPIC SEARCH FOR... EXPERIMENTAL RESULT *
 5 DOCUMENT(S) ACCUMULATED.

In DSIY74/75 it is possible to search a complete
 relation. Check the DSIY DSIY LIST for related
 relations.

? exit
 SYSTEM ? yes
 ? cancel
 JOB #100174 1991 WILL BE CANCELED
 ? yes
 TYPE EXPLAIN IF YOU NEED HELP
 "SAVE" FILE NO. ? 197
 YOUR NAME? for example
 BIN No. ? 197

In this case, user brought system up "on demand" and now
 must cancel it.

SPIRER.X01 SAVED ON SCRU01
 JOB 1655 SPIL1312 QUEUED IN READER POS= 1 PRTY=11
 X01 SAVED ON SCRU01
 Choose UPPER or UPL list NOW, or UPLW tomorrow AM.
 UPPER or UPL
 JOB 1657 SPIL1313 QUEUED IN READER POS= 1 PRTY=11
 UPLW listing will be in bin 197 tomorrow.

After cancellation, "BIOS" file is used through separate
 file spil.1313.1313 which contains and further
 formats output.

```

sto sys
WYLBUR
PPT
? ppt
** Welcome to SPIRES. For help, type SHOW HELP.
Files: PREPRINT, 32,125 entries(9-26/75);
SEARCH ? preprint

FIND? a richter, b. or u ting, s.

AUTHOR SEARCH FOR... RICHTER, B.
AUTHOR SEARCH FOR... TING, S.
      87 DOCUMENT(S) ACCUMULATED.
? date nov 1974
DATE SEARCH FROM NOV 1974 THRU NOV 1974
      5 DOCUMENT(S) ACCUMULATED.
? ti j
TITLE SEARCH FOR... J
      2 DOCUMENT(S) ACCUMULATED.
? type length 70
T NON - OBSERVATION OF HEAVIER J PARTICLES FROM P - NUCLEON REACTIONS
A Aubert, J.J. Becker, U.J. Biggs, P.J. Burger, J. Chen,
  M. Everhart, G. Goldhagen, P. Leong, J. McCorriston,
  T. Rhoades, T.G. Ronde, M. Ting, S.C.C. Wu, Sau-Lan
  Glenn, J.W., III Lee, Y.Y.
AF MIT, LNS Brookhaven
R Print-74-1663 (MIT)
P 2
D NOV 1974
PBN Phys.Rev.Lett.33:1624,1974

T EXPERIMENTAL OBSERVATION OF A HEAVY PARTICLE J
A Aubert, J.J. Becker, U. Biggs, P.J. Burger, J. Chen,
  M. Everhart, G. Goldhagen, P. Leong, J. McCorriston,
  T. Rhoades, T.G. Ronde, M. Ting, Samuel C.C. Sau Lan
  Wu Lee, Y.Y.
AF MIT, LNS Brookhaven
R COO-3069-271
P 9
D NOV 1974
PBN Phys.Rev.Lett.33:1404,1974

OPTION ? search
? backup
SEARCH RESULTS RESET TO LAST          5 DOCUMENTS
? ti narrow resonance
TITLE SEARCH FOR... NARROW RESONANCE
      1 DOCUMENT(S) ACCUMULATED.
? not ti search
TITLE SEARCH FOR... SECOND
      1 DOCUMENT(S) ACCUMULATED.
? type length 70
T DISCOVERY OF A NARROW RESONANCE IN e-plus e-minus ANNIHILATION
A Angustin, J.-E. Boyarski, Adam M. Breidenbach, Martin
  Bulos, F. Dakin, J.T. Feldman, G.J. Fischer, G.E.
  Fryberger, D. Hanson, G. Jean-Marie, B. Larsen, Rudolf R.
  Luth, V. Lynch, H.L. Lyon, D. Morehouse, Charles C.
  Paterson, J.M. Perl, Martin L. Richter, Burton Rapidis,
  Petros Schwitters, R. Tanenbaum, W.M. Vannucci, F.
  Abrams, G.S. Briggs, D. Chinowsky, William Friedberg,
  C.E. Goldhaber, G. Hollebeek, R.J. Kadyk, J.A. Lulu,
  B. Pierre, F. Trilling, G. Whitaker, J.S. Wiss, J.
  Zipse, J.E.
AF SLAC LBL, Berkeley UC, Berkeley
R SLAC-PUB-2504
P 6
D NOV 1974
PBN Phys.Rev.Lett.33:1406,1974

OPTION ? print
FIND? print, 33,1404
CITATION SEARCH FOR... PRLTA,33,1404
      429 DOCUMENT(S) ACCUMULATED.
? of print, 33,1406
CITATION SEARCH FOR... PRLTA,33,1406
      449 DOCUMENT(S) ACCUMULATED.
? choose
ELEMENTS ? type
ELEMENTS ?
TO USE THIS FORMAT, ENTER: TYPE OWN.
? type own format
R EPHOU 75-01
T ADLER - TYPE SUM RULE, CHARGE SYMMETRY AND NEUTRAL CURRENT IN
  GENERAL MULTI - TRIPLET MODEL
R Print-75-0379 (ITEP, MOSCOW)
T ON PSI - MESON PHOTOPRODUCTION
R TUETP-75-14
T NONLEPTONIC DECAYS OF CHARMED MESONS IN THE QUARK MODEL
R Print-75-0839 (TURIN) C75...
NEXT ITEM ? no

```

Do a NOO SYS to determine whether SPIRES or one of its sub-versions is available.

To sign on, type SPIRES or the name of the version which is up, i.e., AMPT, AMPT2, etc.

The sign-on screen tells which files are available for searching.

Specify the file you wish to search.

Each new search begins with SIND and continues with question mark (?) or RETRY.

Codes A, TI, C, ID, or JE must be repeated before each AUTHOR, LINE FROM, CITATION, DATE, REPORT NUMBER, OR TOPIC to be searched.

OR broadens the search to documents with either one author or both authors.

AND narrows the search to those documents with all specified characteristics on one document. AND is implicit after 1 unless OR is specified.

TI J is the equivalent of ? AND TI J

TYPE lists results in default format at terminal.

LENGTH 70 limits line length to 70 columns (no characters are lost) for an 8-1/2 x 11" format.

default format (title, translated title, author, affiliation, report number, pages, date, and publication note, if any). See below for choosing your own format and saving search results.

If you wish to continue in the same search, respond OPTION? search. (To clear search results and start again, respond OPTION? reset.)

Don't try to hurry from OPTION? First continue with OPTION? search, then OPTION?. Saving can take you only one step and in search.

NOT narrows the search by eliminating the SECOND narrow resonance paper.

This search locates the original PSLA papers in the preprint file. Displays two journal references for both and finds how many times they have been cited in the preprint literature.

OPTION? clears the search results and allows a new search to begin.

OPTION? search leads to OPTION? reset. The journal title must be given as a full title letter and, one optional.

OPTION? print can output format (such as title, author, affiliation, etc.) in the own, type, print, type, and print files. OPTION? print can also be used to print the own file.

OPTION ? **exit**

TYPE EXTENDED: Maximize all available information about a document in a concise format.

To learn *HI-EE*, call *8877*.

SAMPLE SEARCH #4, BIBLIOGRAPHY

who sys
 WYLBOR
 TESTWYL (JOB VGHWYLY)
 ABACUS (JOB NFGBJ20)
 SPIRES
 ? spires
 ** Welcome to SPIRES. For help, type SHOW HELP.
 File-s: PREPRINT 32,926 entries(9-26-75); DESY68/69; DESY70/71; DESY72/73; DESY74/75 (10K ENTRIES/YEAR);
 SEARCH ? desy68/69
 FIND ?
 AUTHOR SEARCH FOR... BJORKEN
 22 DOCUMENT(S) ACCUMULATED.
 ? choose
 ELEMENTS ? t,d,af,ppn
 ELEMENTS ?
 TO USE THIS FORMAT, ENTER: TYPE OWN.
 ? type own save length 60
 YOUR SCREENING SEARCH IS: YL 11 SUB SPIRES 703 BY SC8001
 OPTION ? search desy72/73
 FIND ?
 AUTHOR SEARCH FOR... BJORKEN
 24 DOCUMENT(S) ACCUMULATED.
 ? type own save length 60
 OPTION ? type length 70
 T FINAL STATE HADRONS IN DEEP INELASTIC PROCESSES AND COLLIDING
 BEAMS.
 A BJORKEN, J D
 AF STANFORD UNIV
 D 1971
 PBN PREPRINT - BJORKEN J D (REC.NOV 71) 48 P.
 T MULTIPARTICLE ...
 NEXT ITEM ?
 OPTION ? search desy72/73
 FIND ?
 AUTHOR SEARCH FOR... BJORKEN
 22 DOCUMENT(S) ACCUMULATED.
 ? type own length 70
 T A THEORIST'S VIEW OF E+ E- ANNIHILATION.
 A BJORKEN, J ...
 NEXT ITEM ?
 OPTION ? type own save length 60
 OPTION ? search desy72/73
 FIND ?
 AUTHOR SEARCH FOR... BJORKEN
 22 DOCUMENT(S) ACCUMULATED.
 ? type own save length 60
 OPTION ? search desy72/73
 FIND ?
 AUTHOR SEARCH FOR... BJORKEN
 24 DOCUMENT(S) ACCUMULATED.
 ? type own save length 60
 OPTION ? search desy72/73
 FIND ?
 AUTHOR SEARCH FOR... SCHILDK #
 7 DOCUMENT(S) ACCUMULATED.
 ? type own length 70
 T VECTOR MESON DOMINANCE AND PHOTOPRODUCTION OF PSEUDOSCALAR MESONS.
 A SCHILDKNECHT, D
 PBN HAMBURG DESY - DESY 69/41 (69,REC.NOV) 40 P.
 T VECTOR ...
 NEXT ITEM ?
 OPTION ? search desy72/73
 FIND ?
 AUTHOR SEARCH FOR... SCHILDKNECHT,
 SYNTAX ERROR
 DATE MAY NOT BE FOLLOWED BY CARRIAGE RETURN
 SEARCH RESET
 FIND ?
 AUTHOR SEARCH FOR... SCHILDKNECHT,D.
 15 DOCUMENT(S) ACCUMULATED.
 ? type length 70
 FIND ?
 AUTHOR SEARCH FOR... SCHILDKNECHT,D.
 15 DOCUMENT(S) ACCUMULATED.
 ? type length 70
 FIND ?
 AUTHOR SEARCH FOR... SCHILDKNECHT,D.
 15 DOCUMENT(S) ACCUMULATED.
 ? type length 70
 T OFF-DIAGONAL GENERALIZED VECTOR DOMINANCE - A COMPARISON WITH
 RECENT E P DEEP INELASTIC DATA. (TALK)
 A DEVENISH, R SCHILDKNECHT, D
 AF HAM...
 NEXT ITEM ?
 OPTION ? search desy72/73
 FIND ?
 AUTHOR SEARCH FOR... SCHILDKNECHT,D.
 30 DOCUMENT(S) ACCUMULATED.
 ? type length 70
 SYSTEM? wylbor

To do a bibliography of all papers by a single author
 it is desirable to search all available SPIRES files.
 (All files are up on Monday A.M. or may be brought up
 as subsets in 'ON DEMAND' SPIRES.)

In these examples, the same search is conducted thru
 all 5 files without appearance of the 'find'. See
 Section 5.6 of the SPIRES I SEARCH GUIDE for a
 discussion of possible pitfalls in identical searches.

It usually makes sense to take the preprint file
 results as the basic bibliography since there is
 no redundancy in this file. DESY results are then
 checked for items that were never preprinted.

When author's initial is a reserved letter, i.e. A, D,
 or G, it is necessary to put a period after the
 initial (or to enclose the name in double quotes).

In this case, 30 documents were found in both DESYs
 and 1974/75. Check for error in listing at least
 one document in second group. If two had "unified
 field", Schildknecht could not be among the authors.
 In this case, it is just coincidence.

? ~~to type in~~ ~~SPIDSY74~~
 WARNING! SETS UP FOR CASE.
 SUBMITS CLASS 0 JOB TO BRING UP 'ON DEMAND' VERSION OF SPIRES 1 AS AN INTERACTIVE SYSTEM ON SYA.
 ...
 TERSE VERSION?
 ...
 SYSTEMS NOW RUNNING:
 WYLBUR
 ...
 SEARCH? ~~deasy74~~
 Hit RETURN to submit job.
 RUN?
 JOB 4655 SPIDSY74 QUEUED IN READER POS= 1 PRTY=11
 *****VERY IMPORTANT - REMEMBER TO CANCEL YOUR JOB WHEN YOU'VE FINISHED SEARCHING*****
 WYL.LI.PUB.LIB*SPIOUT is exec file for listing saved results
 EXEC RUN
 ? ~~LOC 4655~~
 JOB 4655 SPIDSY74 ACTIVE IN MAIN ON SYA PRTY= 6 CLASS=0
 ? ~~LOC 4655~~
 WYLBUR
 SPIDSY74
 ? ~~LOC 4655~~
 ** Welcome to SPIRES. For help, type SHOW HELP.
 Files: DEASY74-75, 10,694 ENTRIES (9-75)
 SEARCH ? ~~deasy74~~
 FIND? ~~LOC 4655~~
 TITLE SEARCH FOR... MONOPOLE
 15 DOCUMENT(S) ACCUMULATED.
 ? ~~LOC 4655~~
 ELEMENTS ? ~~LOC 4655~~
 ELEMENTS ?
 TO USE THIS FACILITY, ENTER: TYPE OWN.
 ? ~~type own length 70~~
 T MONOPOLE THEORIES WITH MASSLESS AND MASSIVE GAUGE FIELDS.
 K FIELD THEORY, OPERATOR ALGEBRA FIELD THEORY, GAUGE
 POSTULATED PARTICLE, MAGNETIC MONOPOLE PERTURBATION THEORY
 SPIN FERMION MOMENTUM...
 NEXT ITEM 1
 OPTION ? ~~LOC 4655~~
 ? ~~LOC 4655~~
 TOPIC SEARCH FOR... POSTULATED PARTICLE, MAGNETIC MONOPOLE
 108 DOCUMENT(S) ACCUMULATED.
 ? ~~LOC 4655~~
 TOPIC SEARCH FOR... REVIEW
 0 DOCUMENT(S) ACCUMULATED.
 BACKUP? ~~LOC 4655~~
 SEARCH RESTARTED TO LAST 108 DOCUMENTS
 ? ~~LOC 4655~~
 FILE IS WYL.LI.PUB.SPIRES.RP1 ON SCRD01
 FIND? ~~LOC 4655~~
 TOPIC SEARCH FOR... BOOK
 1 DOCUMENT(S) ACCUMULATED.
 ? ~~LOC 4655~~
 TOPIC SEARCH FOR... FIELD THEORY #
 32 DOCUMENT(S) ACCUMULATED.
 ? ~~type length 70~~
 T PARTICLES, SOURCES AND FIELDS. VOLUME II.
 A SCHWINGER, J
 AF CALIF UNIV LOS ANGELES
 R D75-6359 7012/9
 PBN READING 1973, 459 P.
 T PROCEEDINGS OF THE XVII INTERNATIONAL CONFERENCE ON HIGH ENERGY
 PHYSICS, LONDON, JULY 1974.
 A SMITH, J R
 R D75-5478 650475
 PBN CHILTON 1974, NONCONSEC. PAG.
 T PHYSICAL REALITY AND MATHEMATICAL DESCRIPTION.
 A ENZ, C F MENRA, J
 ...
 NEXT ITEM 1
 OPTION ? ~~type length 70~~
 OPTION ? ~~type length 70~~
 FIND? ~~LOC 4655~~
 ARE YOU STILL THERE?
 FIND? ~~LOC 4655~~
 SYSTEM? ~~WYLBUR~~
 ? ~~cancel spidSY74~~
 JOB SPIDSY74 4655 WILL BE CANCELED

When you bring up spires ON DEMAND, system name
 will not be SPIRES, it will be your jobname.

Job may be active for several minutes before your
 system is "up"

When you have finished searching, be sure to cancel
 your job.

```

SEARCH ? DESY 74/75
FIND ? TI STORAGE RING
      120 DOCUMENT(S) ACCUMULATED.
? TI LUMINOSITY
      0 DOCUMENT(S) ACCUMULATED.
? CHOOSE
ELEMENTS ? T, PBN, K
ELEMENTS ?
TO USE THIS FORMAT, ENTER: TYPE OWN.
? TYPE OWN LENGTH 70
T A PRECISION LUMINOSITY MONITOR FOR USE AT E'
STORAGE RINGS.
K ELECTRON POSITION, STORAGE RING STORAGE
QUANTUM ELECTRODYNAMICS, VALENTY TAGG
BEAM MONITORING ELECTRON POSITION, P
PLASTIC SCATTERING, ELECTRON POSITION
INTERACTION INTERACTION, ELECTRON P
STATE FINAL STATE, MUON MUON-
MUON- PHOTON, FINAL STATE FINAL
ELECTRON POSITRON --> MUON MUON-
2PHOTON 2.6 GEV-2.6 GEV BEAM
PBN STANFORD UNIV - HEP-710 (75, REC. JUN)
T STORAGE RING LUMINOSITY MEASUREMENTS I
SCATTERING.
K STORAGE RING, LUMINOSITY ELECTRON P
ELECTRON POSITION, ELASTIC SCATTERING
ELECTRON POSITION ELASTIC SCATTERING.
PBN NUCL. INSTR. METHODS 123 (1975) 125-129.
LNF-74/54 (P) (74, REC. FEB 75) 11 P.
NEXT ITEM ? NO
? OR TP STORAGE RING, LUMINOSITY
      62 DOCUMENT(S) ACCUMULATED.
? NOT TP SLAC
      61 DOCUMENT(S) ACCUMULATED.
? BACKUP
? CHOOSE
ELEMENTS ? T, A, AP, PBN, K
ELEMENTS ?
TO USE THIS FORMAT, ENTER: TYPE OWN.
? TYPE OWN LENGTH 70
T THE BEHAVIOUR OF BETATRON OSCILLATIONS IN THE VICINITY OF
HALF-INTEGRAL STRUCTURE RESONANCES.
K KEIL, S SLAC STANFORD
A BETATRON OSCILLATION ELECTRON POSITRON, STORAGE RING STORAGE
RING, LUMINOSITY
PBN SLAC STANFORD - PDP-121 (75, REC. JUL) 21 P.
T INTRODUCTION TO THE PHYSICS OF ELECTRON POSITRON STORAGE RINGS.
(IN GERMAN)
A WIEDEMANN, H
NEXT ITEM ? NO
OPTION ? TYPE OWN SAVE LENGTH 70
YOUR OFFLINE SAVE FILE IS WYL.LI.FUR.SPIFES.XD1 ON SCF001

```

```

ABACUS (JOB MFGEB920)
(see file wyl.li.fur.spiout.cir)
? 1. set exe not ter
TYPE EXPLAIN IF YOU NEED HELP
"SAVE" FILE NO. 1 253
YOUR NAME? for example
BIN No.? 197

```

```

SPIRES.ZQ3 SAVED ON SCF001
JOB 1327 MFGEL1533 QUEUED IN READER POS= 1 PRY=11
ZQ3 SAVED ON SCF001
Choose UPPER case list NOW, or UPLW tomorrow AM.
UPPER or UPL? upper
JOB 1330 MFGEL1533 QUEUED IN READER POS= 1 PRY=11
UPPER case listing will be in bin 197 today

```

1.
THE BEHAVIOUR OF BETATRON OSCILLATIONS IN THE VICINITY OF
HALF-INTEGRAL STRUCTURE RESONANCES.
KEIL, S SLAC STANFORD
BETATRON OSCILLATION ELECTRON POSITRON, STORAGE RING STORAGE
RING, LUMINOSITY
SLAC STANFORD - PDP-121 (75, REC. JUL) 21 P.

2.
INTRODUCTION TO THE PHYSICS OF ELECTRON POSITRON STORAGE RINGS.
(IN GERMAN)
WIEDEMANN, H
HAMBURG DESY
LECTURES ELECTRON POSITRON, STORAGE RING LINEAR ACCELERATOR
POSITRON, PRODUCTION PRODUCTION, POSITRON STORAGE RING.
LUMINOSITY SCATTERING, BEAM-BEAM BEAM OPTICS MAGNETIC
FIELD QUADRUPOLE LENS BEAM OSCILLATION SYNCHROTRON.
RADIATION ELECTRON P, STORAGE RING
HAMBURG DESY - INTERNAL REPORT 8-75/01 (75, REC. JUL) 126 P.

3.
MODIFIED USE OF VAN DE WERF METHOD FOR LUMINOSITY DETERMINATION.
PAINTER, D B
BROOKHAVEN NATIONAL LAB
P P, STORAGE RING STORAGE RING, LUMINOSITY BENDING MAGNET
SCATTERING, BEAM-BEAM POWER SUPPLY MEASUREMENT, LUMINOSITY
MEASUREMENT, EXPERIMENTAL METHODS EXPERIMENTAL METHODS,
MEASUREMENT
BROOKHAVEN NATIONAL LAB - BNL-70109 (75, REC. JUL) 6 P.

4.
PERFORMANCE STUDY ON POSITRON-POSITRON STORAGE RINGS AT SEVERAL
HUNDRED GEV/C.
DI LELLA, L GARDEN, A HOFFMANN, H MARCH, M POTTER, K
STEFFEN, K TUNG, L WILLIS, W TOTTER, R
FERMIILAB BATAVIA CERN GENEVA LAWRENCE BERKELEY LAB
BROOKHAVEN NATIONAL LAB HAMBURG DESY
STORAGE RING, P P STORAGE RING, LUMINOSITY ENERGY
DEPENDENCE, LUMINOSITY PROPOSED EXPERIMENT, EXPERIMENTAL
EQUIPMENT SCATTERING, SMALL-ANGLE SCATTERING, WIDE-ANGLE
DIFFRACTION, DISOCIATION BEAM, BEAM SPECTRUM ENERGY
SPECTRUM BEAM NUMERICAL CALCULATIONS
CERN GENEVA - ISR-AS/74-64 (74, REC. JAN 75) 50 P.

The following is the SPIES 1 exclusion word list used to facilitate TITLE request searching. (In the TOPIC phrase index none of these words are excluded.) a, able, ably, about, above, accompany, accord, according, across, actual, addition, address, affect, after, afterward, again, against, ago, ahead, aid, allowed, allowing, allow, almost, alone, along, already, also, although, always, as, amid, among, an and, another, any, anything, apply, at, ask, asked, asking, at away, based, be, been, became, because, become, before, began, begin, begins, behind, being, believe, below, beneath, beside, best, better between, beyond, bring, bringing, brings, brought, but, by, came can, cannot, caused, causing, certain, clearly, co., come, comes, coming, consider, corp., could, dept., despite, did, do, does, doing, done, don't, down, due, during, each, easy, easily, either, else, enough, especial, etc., even, ever, every, everything, except, far, rather, few, fewer, finally, finding, finds, follow, for, forth, forthcoming, found, from, front, fulfill, full, fully, further, gave, get, gets, getting, give, given, giving, go, goes, going, gone, good, got, had, happen, has, have, having, he, hear, her, here, hers, herself, his, how, however, if, in, include, indeed, inside, instead, into, involve, is, its, it's, itself, keep, keeping, keeps, kept, knew, know, knowing, known, knows, largely, last, late, lately, later, less, let, lets, letting, like, likely, likes, little, long, longer, look, looking, lo, its, made, make, makes, making, many, may, me, more, merely, might, more, moreover, most, much, must, my, myself, near, nearly, need, needed, needs neither, never, nevertheless, next, no, none, nor, not, nothing, notwithstanding, now, nowhere, or, off, often, oh, oh, once, one, only, onto, or, other, others, otherwise, our, out, outside, over, overcome, overly, own, owing, owns, partly, pending, per, perhaps, plus, possible, put, quick, quickly, quite, rather, readily, really, regard, relate, result, return, said, same, sat, save, saved, saves, saw, say, says, see, seeing, seem, seems, seen, sees, series, several, shall, she, should, shown, since, sit, sits, sitting, so, some, something, sometime, soon, still, stood, such, sure, take, taken, takes, taking, than, that, the, their, them, themselves, then, thence, there, thereby, therefore, therein, these, they, this those, thought, through, thus, times, together, to, too, took, toward, towards, tried, try, under, undergo, underneath, unless, until, up, upon, us, use, using, usual, usually, various, vary, versus, very, via vs, want, was, we, went, were, what, whatever, when, whenever, where, whence, whereas, whereat, whereby, wherefore, wherein, whereof, whereto, wherever, whether, which, whichever, while, whither, who, whole, wholly, whom, whose, why, with, within, won't, would, yes, yet, you, your, yours, yourself

ACTA ASTRON.....	AASWA	ANN. REV. ASTRON. & ASTROPHYS.....	APNAA
ACTA MATH.....	ACXTA	ANN. REV. NUCL. SCI.....	ARNUA
ACTA PHYS. ACAD. SCI. HUNG.....	APABA	APPL. OPT.....	APOPA
Acta Phys.Austr.....	APASA	APPL. PHYS. LETT.....	APPLA
Acta Phys.Austr.Suppl.....	ATAUA	APPL. SCI. RES. (A).....	ASPA
ACTA PHYS. HUNG. (see: HUNG.ACIA PHYS.)....		APPL. SCI. RES. (B).....	ASBA
ACTA PHYS. POLON.....	APROA	ARCH. SCI. PHYS. & NAT.....	ASBPA
ACTA PHYS. SIN. (WU LI HSUEH PAC).....	WLHPA	ARCH. RATION. MECH. & ANAL.....	AURMA
ACTA SOC. SCI. FENN. (A: PHYS. MATH.).....	ASFAA	ARK. FYS.....	AFYSA
ADV. ASTRON. ASTROPHYS.....	AAVAA	ARK. MAT., ASTRON., & FYS.....	AMAFPA
ADV. NUCL. PHYS.....	ANUPB	ASTRON. J.....	ANJON
ADV. PHYS.....	ADPHA	ASTRON. NACHR.....	ASNAA
ADV. THEOR. PHYS.....	ATHPB	ASTRON. ZH., AKAD. NAUK SSSR.....	ASZHA
AM. J. MATH.....	AMMAA	ASTROPHYS. J. (often abbrev. Ap. J.).....	ASJJO
AM. J. PHYS.....	AMPTA	ASTROPHYS. J. SUPPL. SER.....	APJSA
AM. J. SCI.....	AMSCA	ASTROPHYS. LETT.....	ASTLA
AM. MATH. SOC. TRANS... (see: TRANS.AM.MATH.SOC.)		ATOMNAYA ENERGIYA (USSR).....	ATNGA
AM. MATH. SOC., TRANSL.....	AMTLA	ATOMIC ENERGY (USSR).....	ATNUA
AM. PHYS. SOC. BULL. see BULL.AM.PHYS.SOC.		AUST. J. PHYS.....	ACJPA
AM. SCI.....	AMSCA	BRIT. J. APPL. PHYS.....	BJJPA
ANN. ASTROPHYS.....	ANFAA	BULL. ACAD. POL. SCI. (SER. SCI.:.....	
ANN. INST. FOURIER.....	AFUUA	MATH., ASTRON. & PHYS.).....	APAPPA
ANN. INST. HENRI POINCARÉ (A: PHYS., THEOR.).....	ANPAA	BULL. ACAD. ROY. BELG.....	AFBSA
ANN. MATH. (Annals of Mathematics).....	AMMAA	BULL. ACAD. SCI. USSR PHYS. SER. (transl.)....	BUPSA
ANN. MATH. STAT.....	AASCA	BULL. AM. MATH. SOC.....	BAMCA
ANN. N.Y. ACAD. SCI.....	ANMAA	BULL. AM. PHYS. SOC.....	BAPSA
ANN. PHYS. (GERMANY).....	ASPYA	BULL. ASTRON. INST. MICH.....	BAJMA
ANN. PHYS. (FRANCE).....	ANPHA	BULL. AT. SCI.....	BAJMA
Annals Phys. (NEW YORK).....	APNYA	BULL. GEOD.....	BUGSA

BULL. DE SCI. MATH.	BSPMA	MON. NOT. ROY. ASTRON. SOC.	MNRAS
BULL. SOC. MATH. FR.	BSPMA	MON. NOT. ROY. ASTRON. SOC.	MNRAS
BULL. SOC. ROY. SCI. LIEGE	BSPMA	GEOPHYS. SUPPL.	
CAN. J. CHEM.	CJCHRA	NAT. ACAD. SCI. NAT. RES. COUNC. PUBL.	NASPA
CAN. J. MATH.	CJMMA	NATURE (SPLIT INT)-NAT. PHYS. SCI. -#(1971)	NATPA
CAN. J. PHYS.	CJPHRA	NATURE	NATPA
CAN. MATH. BULL.	CMBUA	NUCL. DATA, SEC. A	NDSAA
CHEM. PHYS. LETT.	CHPLR	NUCL. DATA TABLES, US AEC	NTXAA
COMMENTAT. PHYS.-MATH.	CHPMA	Nucl. Instrum. Methods	NIMPA
Comments Nucl. Part. Phys.	CNPFA	Nucl. Instrum. Methods Suppl.	NIMSA
COMMUN. OF THE ACM	CACMA	Nucl. Phys. (A) (B)	NUPHA
Commun. Math. Phys.	CMPHA	NUCLEONICS	NUCLA
COMMON. PURE & APPL. MATH.	CPAMA	NUKLEONIKA	NUKLA
COMET. REND. ACAD. SCI.	COMRA	NUMER. MATH.	NUMPA
COMPUTER J.	CJPJA	Novo Cii. (A) (B)	NUCIA
CZECH. J. PHYS.	CZPJA	NUOVO CIM. LETT.	NCLLA
DOKL. AKAD. NAUK USSR	DANPA	NUOVO CIM. SUPPL.	NUCUA
FORTSCHR. PHYS.	FEPKA	OPT. ACTA	OPTAA
GEOCHIM. & COSMOCHEM. ACTA	GCACA	OPT. & SPECTROM.	OPSAA
HEALTH PHYS.	HLTPA	PACIFIC J. MATH.	PJMAA
Helv. Phys. Acta	HPACA	Part. Nucl. MATH.	PANPA
Helv. Phys. Acta Suppl.	HPVSA	PHIL. MAG.	PHMAA
HUNG. ACTA PHYS.	HUAPA	PHIL. MAG. SUPPL.	PHMSA
IEEE TRANS. COMPUTERS	ITCOB	PHIL. TRANS. ROY. SOC. LOND.	PTRSA
IEEE TRANS. INSTRUM. & MEAS.	ITIMA	PHIL. SCI.	PHSCA
IEEE TRANS. NUCL. SCI.	ITINA	PHYS.	PHYCA
INDIAN ACAD. SCI. PROC.	IPASA	PHYSICA	PHYSA
INDIAN J. PHYS.	IPJPA	PHYS. REV. (A) (B) (C) (D)	PRHVA
INFORM. & CONTROL	IFCMA	PHYS. REV. LETT.	PLTAA
IZV. AKAD. NAUK ARM. SSR (SER. FIZ.)	IAPFA	PHYS. LETT. (A) (B) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)	PHLTA
IZV. AKAD. NAUK ARM. SSR (SER. FIZ.)	IAPFA	PHYS. REV. (Section C of PHYS. REV.)	PRSCA
(SER. FIZ.-MATH. NAUK)	IAMMA	PHYS. STATUS SOLIDI	PHSSA
IZV. AKAD. NAUK SSR, SER. FIZ.	IAPFA	PHYS. BULL. INDIAN INST. TECH.	IITPA
JAP. J. PHYS.	JAPPA	PHYS. J. INDIAN INST. TECH.	IITPA
JETP Lett.	JETPL	PHYS. ACAD. OF SCI. (USSR) SEC. PHYS.	PHYSA
J. (OF) ACM	JACOA	PHYS. AM. MATH. SOC.	PAMPA
J. AM. CHEM. SOC.	JACSA	PHYS. AM. PHYS. SOC.	PAPCA
J. AM. STAT. ASSOC.	JASTA	PHYS. INDIAN ACAD. SCI.	PIASA
J. ANAL. MATH.	JAMMA	PHYS. J. INDIAN INST. TECH.	IITPA
J. APPL. PHYS.	JAPPA	PHYS. KENNEL, NORDL. ACAD. & MET.	KNAWA
J. AUST. MATH. SOC.	JAMMA	PHYS. LOND. MATH. SOC.	PLTAA
J. CHEM. PHYS.	JCPMA	(M: MATH., ASTRON., PHYS.)	PRIAA
J. COMPUT. PHYS.	JCTPA	PHYS. SOC. OF EDINBURGH	PREEA
MATH., ASTRON., PHYS., CHEM.)	JETPA	PHYS. NATL. ACAD. SCI. (USA)	PNASA
J. GEOPHYS. RES.	JGRTA	PHYS. CAMBRIDGE PHIL. SOC. ETOP.	CPSPA
J. IND. MATH. SOC.	JIMTA	PHYS. CAMBRIDGE PHIL. SOC. TRANS.	CTPSA
J. INST. MATH. & APPL.	JITMA	PHYS. PHYS. MATH. SOC. JAP.	PPJPA
J. LOND. MATH. SOC.	JLYMA	PHYS. PHYS. SOC.	PPSCA
J. MATH. ANAL. APPL.	JMYMA	PHYS. ROY. SOC. LOND.	PRSLA
J. MATH. & MECH.	JJMAA	PHYS. RUS. PART. & COSMIC RAY PHYS.	PRPCA
J. Math. Phys.	JJMPA	PHYS. NUCL. PHYS.	PNUPA
J. MATH. SOC. JAP.	JJPAA	PHYS. NUCL. TECH. & INSTRUM.	PNTPA
J. NATURAL SCI. & MATH.	JNMAA	PHYS. THEOR. PHYS.	PTPAA
J. OPT. SOC. AM.	JOAPA	PHYS. THEOR. PHYS. SUPPL.	PTSPA
J. PHYS. AIGENT-PROG. PHYS. STU.	JJPAA	PUBL. ASTRON. SOC. JAP.	PASJA
J. PHYS. B: ATOM. MOLEC. PHYS. SER.	JJPAA	PURE & APPL. MATH. COMM.	
J. PHYS. (MATH.)	JJPAA	see: COMMUN. PURE & APPL. MATH.	
J. PHYS. (FRANCE)	JJPAA	PURE & APPL. PHYS.	PAPPA
J. PHYS. SUPPL. (FRANCE)	JJPAA	REPTS. PHYS. PHYS.	RPSPA
J. PHYS. CHEM.	JJPAA	REV. MATH. FIS.	RMFPA
J. PHYS. & RADIAN.	JJPAA	Rev. Mod. Phys.	RMPAA
J. PHYS. & RADIATION	JJPAA	REV. PHYS. APPL.	RHPAA
J. PHYS. SOC. JAP.	JJPAA	REV. ROY. PHYS.	RROPAA
J. PHYS. SOC. JAP. SUPPL.	JJPAA	REV. SCI. INSTRUM.	RSCIA
J. PLASMA PHYS.	JJPAA	REV. NUOVO CIM.	RNVCA
J. RES. NBS A, PHYS. & CHEM.	JNAAA	REV. AM. MATH. SOC.	RAMSA
J. RES. NBS B, MATH. & PHYS.	JNBBAA	SIAM J. NUMER. ANAL.	SJNAA
J. SCI. INSTRUM.	JJPSA	SIAM REV.	SIRAA
KGL. NORDENS. VID. FOLSK. FORSK.	KNFPA	SOLID STATE PHYS.	SSPSA
KERNTECHNISCHE	KNTPA	SOV. ASTRON. - A.J.	SAJPA
KORR. DAN. VID. SEL. MATH.-FYS. FOLK.	KNFPA	SOV. J. Nucl. Phys. (Eng. transl.)	SJNPA
KORR. DAN. VID. SEL. MATH.-FYS. FOLK.	KNFPA	SOV. MATH. PHYS.	SMPAA
LECT. THEOR. PHYS.	LTPAA	SOV. PHYS. ENGL. transl.	SETPAA
LETT. AL NUOVO CIM.	LNCPA	SOV. PHYS. JETP LETT. (see: JETP LETT.)	SPJLPA
MATH. JAP.	MATPA	SOV. PHYS. TECH. PHYS.	STPAA
MATH. ANN. (Mathematisches Annalen)	MAMPA	SOV. PHYS. JETP. (Eng. transl.)	SPJLPA

